THE ARCHITECT & BUILDING NEWS

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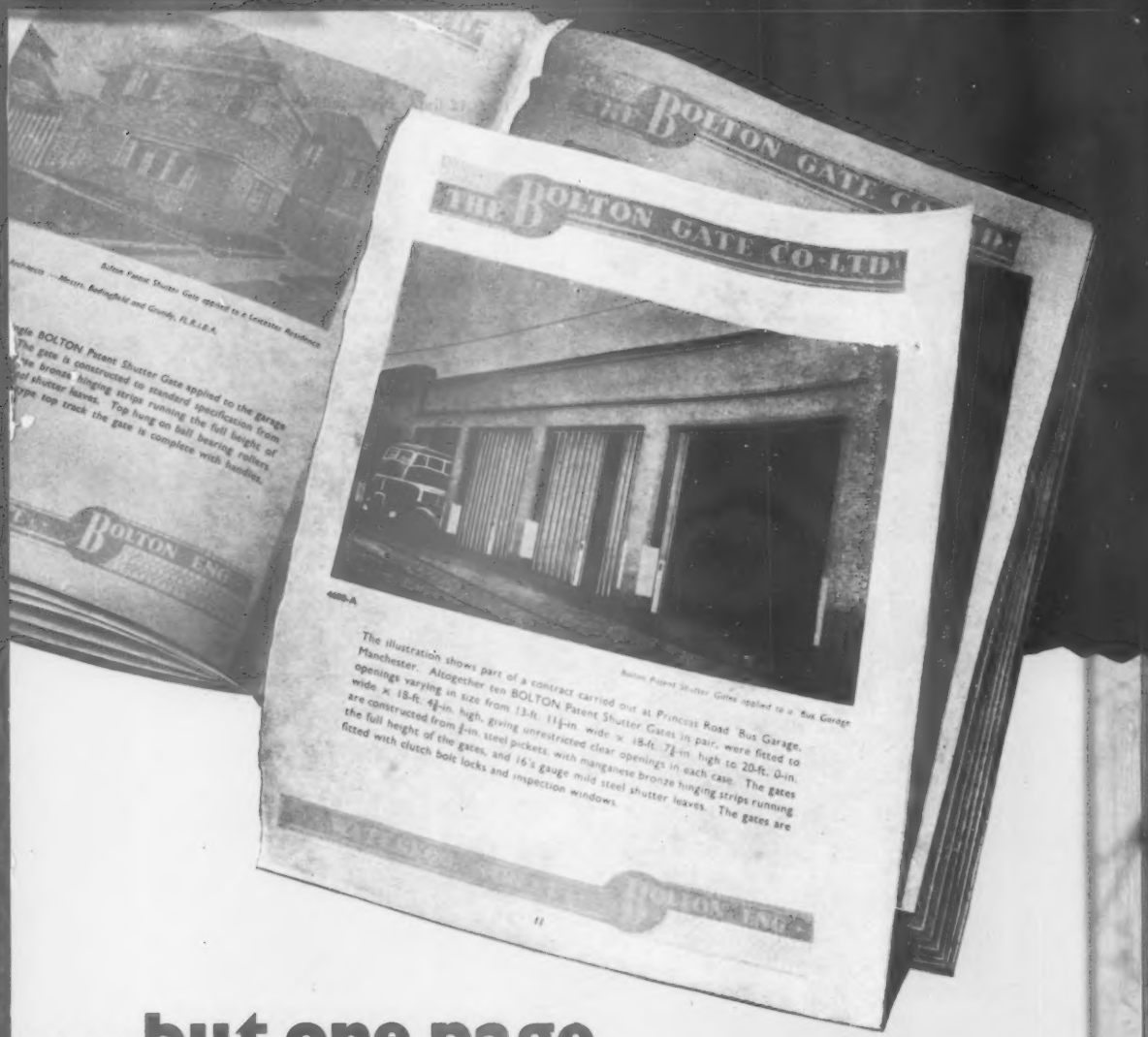
APRIL 27, 1951 · VOL. 199 · NO. 4297 · ONE SHILLING WEEKLY



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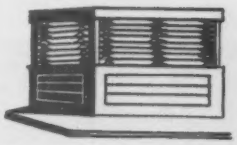

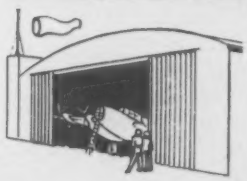

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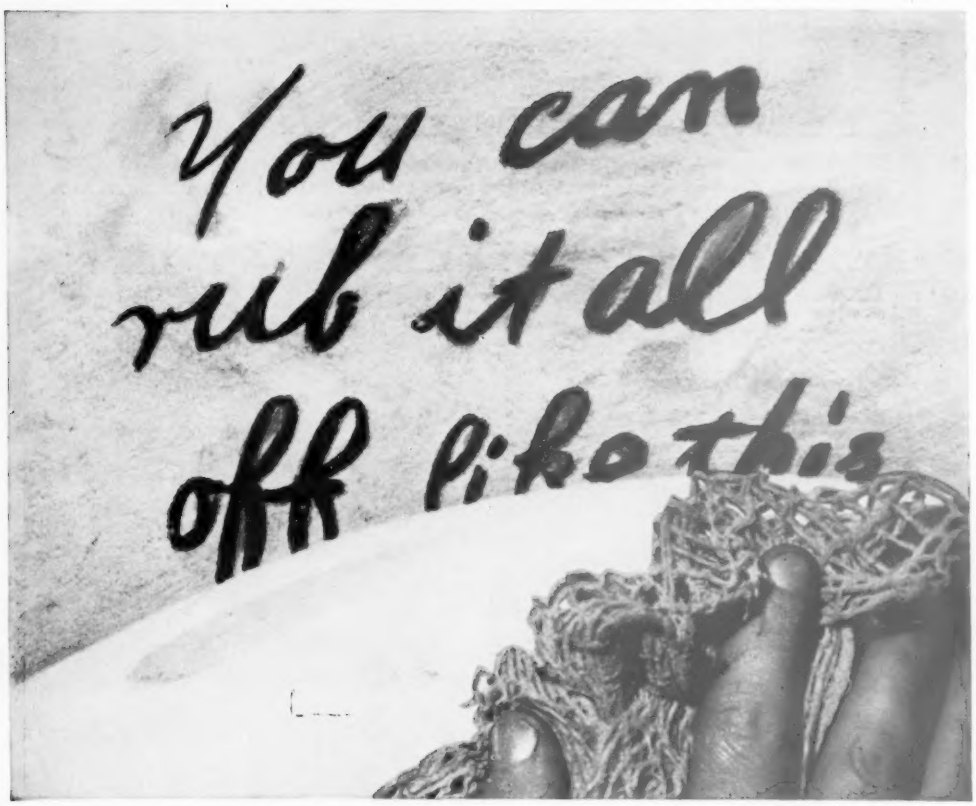

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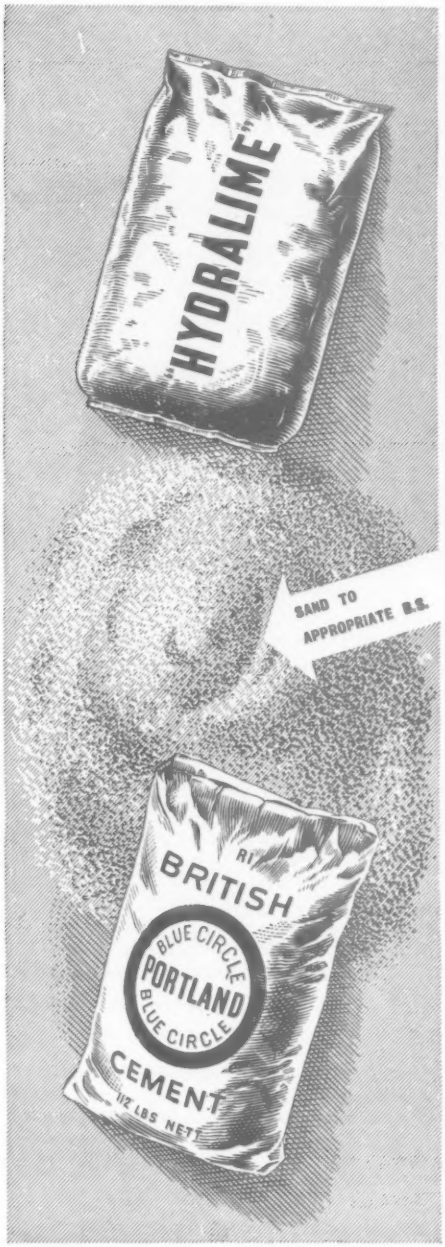

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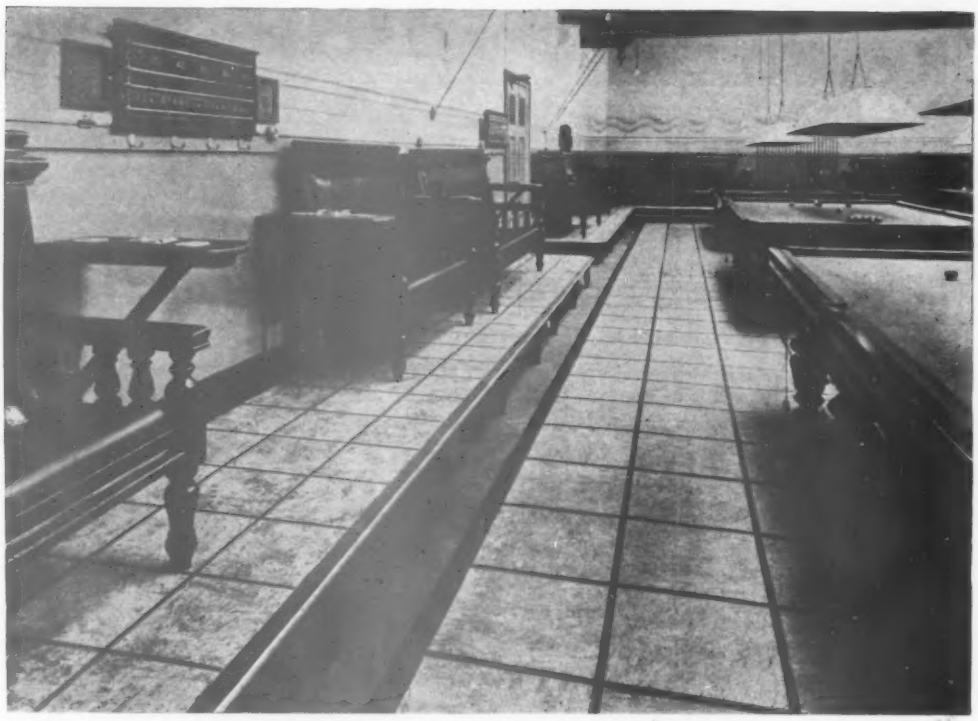

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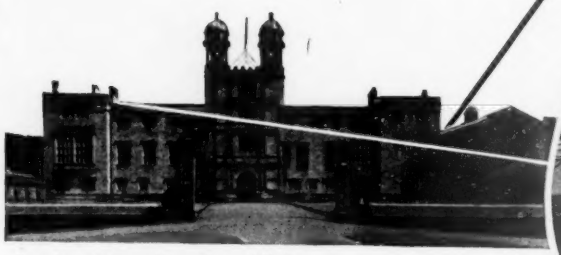
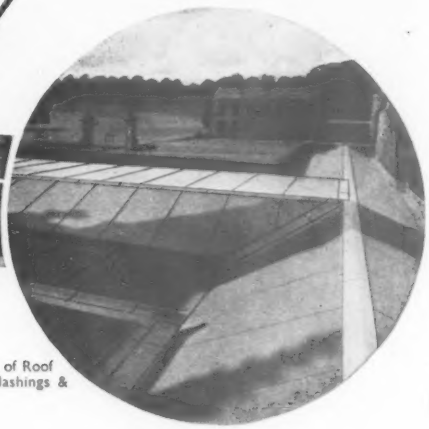


Stonyhurst College, Hurst Green, Whalley.
Architect: Wilfrid C. Mangan, M.I.A.A.S.



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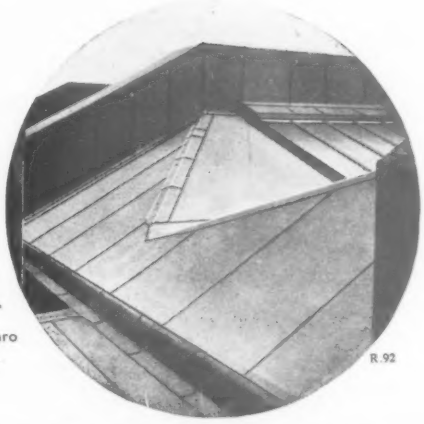

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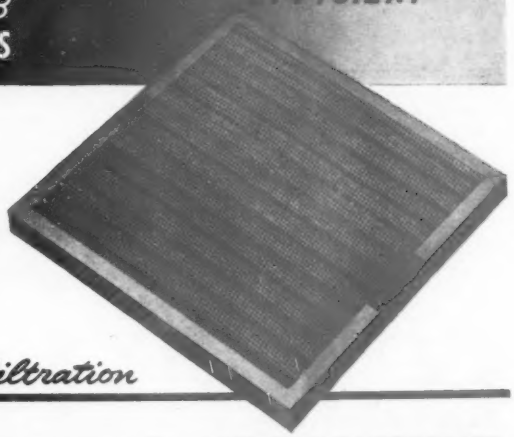

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CARAVANS, CAMPS AND SHACKS

THE Planning and Development Committee of Lancashire County Council has asked for a county survey of camping and shack sites to be made at the earliest opportunity, and recommends that no definite policy should be formulated to regulate caravan and shack sites until this has been carried out and considered together with reports on the public health aspect from the M.o.H. and recommendations by the County Councils' Association, which is also considering the problem.

Problem it is, as if there weren't enough! The building of trailer-caravans and the popularity of this way of life for holidays and weekends, and even permanent residence, is largely a post-war phenomenon.

The demand was cleverly anticipated and met by Private Enterprise, which, while efficiently producing the goods, took no responsibility for the outcome.

Without anticipating the result of the investigations by the Lancashire County Committees, the following generalisations would probably be safe. One, that the health and enjoyment of the campers and caravanners, especially the children, is a very important point in favour, and that the short term policy should be to control but not to prohibit. Two, that insanitary shacks, sprawling over acres of countryside, should be treated as a social disease, quite separate from the holiday aspect. That the long term policy is to plan the use of land so that the exuberance of individual campers and caravanners does not destroy the beauty of the countryside, and to firmly control the "Blow you, Jack, I'm all right" kind of philosophy.

Until fairly recently Ordnance Survey maps could be relied on to give a very good idea of the nature of the places represented on the map. People planning holidays could search for spots that looked what they were, seaside resorts or open country and deserted beach or down. But to-day who can tell?

Quiet looking woods by wild estuaries turn out on closer investigation to be as full of trailer-caravans as they were with camouflaged guns in the war.

Architects and planners made, long ago on paper, suggestions on lay-out and construction of holiday shacks, recognising that town-workers with increased wages would explode into the country and seaside.

Local authorities have had wide powers of control, and there are many well-regulated and tidy sites.

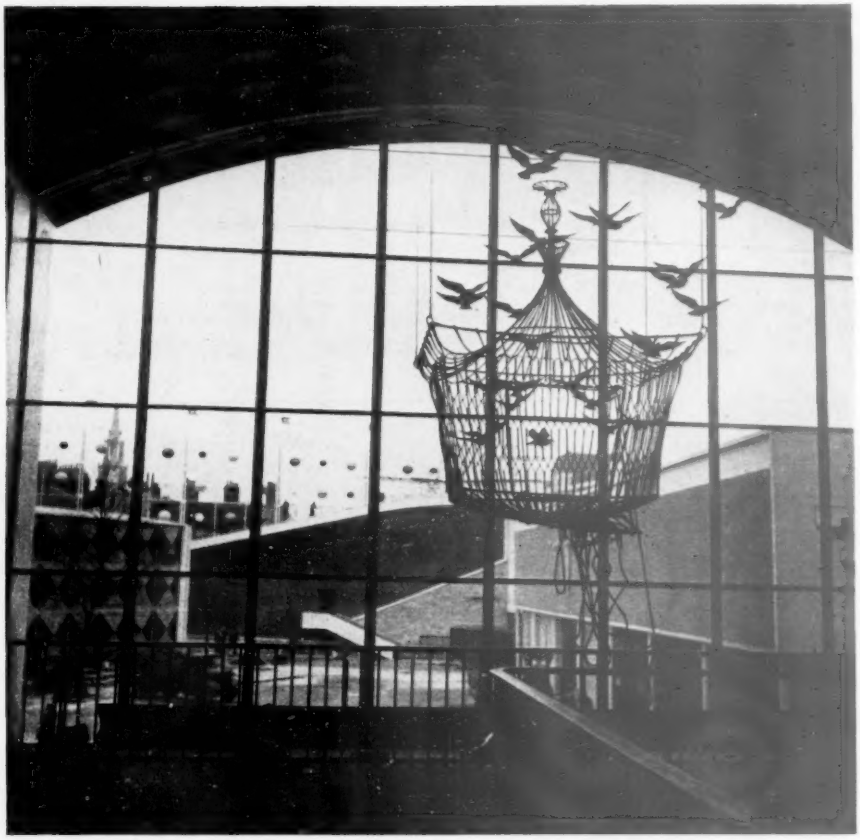
But unless the public are brought to understand the need for planning control, it may become a real problem to break-up existing sprawls.

Sanitary arrangements are chancey at the best, and the appeal to the farmer or landowner of easy money puts a premium on this kind of land-use.

It is unfortunate, too, that most caravans are painted in colours that draw attention. Painted up to catch the eye of buyers in the showroom or yard, no thought has been given to the kind of colouring that would render them unobtrusive.

Like a flock of sheep turned into large cream stream-lined packages, they render thousands of acres of countryside unlovely to the eye of the beholder.

Lancashire is a particularly good county from the point of view of a survey, and the results should be of very great value to other authorities—but it is later than you think!



This picture was taken from the gallery of the Lion & Unicorn Pavilion (Gooden & Russell) at the Press Preview of the South Bank Exhibition. In the background can be seen L-R, one end of the Homes & Gardens Group (Katz & Vaughan) and Television Cinema & Pavilion (Welles Coates)

EVENTS AND COMMENTS

THE DUKE OF EDINBURGH

AT a meeting of the R.I.B.A. Council held on April 3, H.R.H. the Duke of Edinburgh, K.G., was elected an Honorary Fellow of the Institute. The Earl of Rosse, M.B.E., and Mr. A. S. Oswald were elected Honorary Associates.

ARCHITECTS' SMOCKS

THERE are among us a few unworthy people who sometimes suggest that the R.I.B.A. does not do as much as it should for its members. It is with mingled pleasure and disappointment that I therefore draw your attention to a battle which the Institute has just fought, and alas lost, with the Board of Trade on the question of architects' smocks. As a result of inquiries from members, the R.I.B.A approached the B.o.T. with the suggestion that architects' smocks should be included in the range of utility garments. The Ministry reply was polite but firm and to the effect that everything was very difficult, and that there was already a large range of utility overalls which could not, without unfair discrimination, be extended to some special types. Your alternatives are therefore to pay the purchase tax or to go around looking like a banana porter, garage hand, atomic worker, or dentist.

R.I.B.A. AND THE FESTIVAL

THE exhibition, " A Hundred Years of British Architecture," which is to be the Institute's main contribution to the Festival, will be opened at the R.I.B.A. on July 11 by the Rt. Hon. the Earl of Bessborough, Hon.F.R.I.B.A., and will remain open until September 8. It is perhaps a pity that it will be such a late starter, but the Institute's building is a busy place and has among other things to accommodate the annual reception on May 18 and some final examinations later on.

I wonder whether the Festival authorities have devised any method of allowing visitors to record the number of events, exhibitions and so on which they

attend. A stick with notches, "Stocknageln," a medal with innumerable bars, or a silver dome badge with rivets round the edge on the lines of the Grindelwald Ice Club's badge, might be suitable. If some such device is not developed, how shall we know amateur from professional?

ARCHITECTURE WITH A CAPITAL A

A CORRESPONDENT last week did, I think, less than justice to architects and editors in this country. I do not think that anyone considers that the bulk of building being done to-day is Architecture, but some of it is. Some work in all the categories Mr. Norburn mentioned is architecture, and some schools are as well. I would be interested to know about the Architecture in the outer world—not buildings—to which he refers and which he would like to see illustrated.

CLOCHEMERLE IN GLASGOW

I QUOTE the following un-edited from a Scottish agency:

"A significant trend towards the provision of quietly luxurious 'powder rooms' for women in cocktail bars, lounges and quality hotels and restaurants demands the attention of all interested in securing and holding feminine business. For years police authorities have criticised the inadequate facilities in most hotels and have opposed any development of family trade for that reason. In Scotland, where cocktail lounges and bars have not normally had much feminine patronage till recently, the managements concerned are now providing excellent facilities for their lady clients. Some even verge on the quietly luxurious, with the obvious intention of attracting the more fastidious customer by their attention to sanitation.

"Two recent examples in Scotland are interesting. In Edinburgh the George Hotel has fitted a toilet or "powder room' as part of their new Adam Suite. The room, with its uniformed attendant, has all the quiet luxury of a drawing room. In Glasgow Guy's Restaurant have fitted a most perfect example of this trend in their new restaurant. Fresh flowers grow in pots on the window ledges. Wall dressing tables, a fitted carpet, gay fabrics, bright colours, all combine to make this one of the most intelligent rooms of its type in the trade and a compliment to the patrons who use the restaurant."

One of my lady agents is now touring London in search of local examples of this significant, intelligent and quietly luxurious trend.

ECONOMISTS

OTHERWISE those who study the relation between man and his working environment, were in session at Birmingham University recently. Sir Ben Lockspeiser, secretary of the D.S.I.R., said that it was too readily believed that any equipment which reduced the physical effort of the operative inevitably increased output and reduced fatigue. A distinguished anatomist deplored the "anatomic-shaped seat" as found on ploughs, and pointed out that ploughmen invariably used sacking to flatten out the bumps. Designers of Italianate modern furniture please note.

Everyone since Lemmy Caution has known that too much comfort is bad for business, and a chair in which you cannot change your position, however comfortable that position is for the first ten seconds, should be thrown away.

SOUTH BANK PREVIEW

I WAS not able to go to the South Bank preview, but, judging by what I have heard, it should be completed in time. First reports show that some critics are badly out of their depth. For example, one writer cannot understand the Dome of Discovery at all, and suggests that it is not nearly so good as the Crystal Palace. Another calls the whole exhibition incoherent; another says that it is characterised by an "ultra-modernistic approach"; and yet another that the buildings incline to a "modern" manner which is already a little out of date. These remarks by laymen who are not really qualified to write about such things, make me hope that the Festival authorities have prepared something on the architecture of the exhibition for people who are interested but do not quite understand. A short account by Hugh Casson would be just the thing. I have seen no enthusiastic reports except the calm and measured praise of *The Times*. On the other hand the Beaverbrook Press has continued and even intensified its abuse of the Festival as a whole and Mr. Gerald Barry in particular.

Prize for anti-Festival invective so far goes to Mr. Lonsdale-Hands, who, speaking in Birmingham recently, is reported to have said "this incredible monument to the folly and false pride of a cult of long-haired aesthetes revels in the most inappropriate and utterly ridiculous title of the Festival of Britain. Festival? It is a reticule into which the taxpayer is pouring an unending stream of money to bolster the child-like economics of a group of publicity-seeking morons!"

Unfortunately I cannot at the moment lay my hand on my volume of Aesop, in which I am sure I could find a number of apt quotations to serve as comment on this remarkable outburst.

PARLIAMENT SQUARE

MR. Grey Wornum's scheme for Parliament Square is almost complete. I like it but never cease to regret that the "Westminster Precinct" plan was not adopted. Anyone who wishes to visit the island of grass, trees, and statues will risk his life crossing the road and, once there, may never collect enough courage to return.

Eight-storey block of flats recently completed in Munich

VACANCIES IN KENYA

I PASS on to you the information that Ernst May, who lectured here last year, is looking for assistants. A free air passage to Kenya is offered in return for a guarantee of two years' stay. Good accommodation is available. An advertisement will be appearing soon; meanwhile, anyone interested should write to the Hon. Sec., The MARS Group, 9 Conduit Street, London, W.1.

ARCHITECT PAINTERS

MY remarks about the P.R.A.'s speech at the presentation of the Royal Gold Medal have brought me a long letter from an architect-painter, who points out that Sir Gerald Kelly may not be aware that there are many architects who regularly exhibit at the Academy and who hold valued opinions on contemporary art. He gives a list of seven but there must be many more. My correspondent's main protest is against the system which prevents architects from appearing as such in the R.A. catalogue. It seems to him, and to me too, that no one could object to the inclusion in the catalogue of professional affixes. They would, in fact, add interest, although in pictures of buildings at least architectural draughtsmen often give themselves away.

My correspondent goes on to say that it is a little hard to suggest that the architectural profession's only contribution to painting is to talk rot about it. Fortunately not all painters are so lacking in architectural appreciation as the R.A., though many are perhaps less honest.

CARLTON HOUSE TERRACE

WRITING on this subject on February 9, I suggested that the Royal Fine Art Commission might stop bad schemes right at the beginning instead of contenting itself with polite observations on minor details when the major harm had been done. I further suggested that readers should write to their M.P.s, and lo! one, at least, did. I have not seen his letter but I have a copy of the letter sent to his M.P. by the Parliamentary Secretary to the M.o.W. in which it is made quite clear that the Royal Fine Art Commission were consulted on Carlton House Terrace and the Colonial Office from the very first. On the subject of Carlton House Terrace the letter actually quotes from the Commission's Report of April 30, 1945. This recommendation (not specified in the quotation) is, however, subject to the approval by the Commission of the new North Elevation to which the Commissioners attach considerable importance and such other details as may be prepared which have not yet been submitted. Further consultations took place in 1948 and 1949 and the Commission's report for the latter year says " the future of Carlton House Terrace was referred to the Commission by the Ministry of Works and a proposal for the redevelopment agreed that will keep intact the essential character of Nash's elevations to the Mall and the Duke of York's Steps."

The Royal Fine Art Commission was consulted about the Colonial Office in July, 1948. Various objections were raised and alterations made. General approval was given in 1949. Subsequently further amendments have been made at the Commission's request.

It seems to me that the M.o.W. has made a pretty clear case for itself, although the approval of the Commission is no passport to Elysium and cannot excuse the originators of the ideas.

All this strengthens my closing remark on February 9 that if the Commission within its present terms of reference is unable to nip these schemes in the bud, its terms of reference should be revised. Meanwhile, congratulations to Mr. John Bloxham for taking the matter up with his M.P.

My feelings about Carlton House Terrace were heightened the other day by a visit to one of the splendid houses and the thought of the desecration that is soon to fall upon them all. Perhaps after all they will be saved, for the fight is to continue this week in the L.C.C.

ABNER

The Minister of Local Government and Planning has awarded the Urban Housing Medal for the Eastern Region to Mr. H. Kellett Ablett, F.R.I.B.A., M.T.P.I., Chief Architect of the Hemel Hempstead Development Corporation. Mr. Ablett was Architect and Assistant Planning Officer to the Oxford City Engineer, Mr. J. C. Riddell, up to 1945, when he left to take an appointment as City Housing Architect at Nottingham. He left there to join the Hemel Hempstead Development Corporation. Hemel Hempstead is the first new town to be awarded the Housing Medal. The houses which were submitted for the award were those in the Adeyfield neighbourhood unit which is part of the new town of Hemel Hempstead. This Adeyfield area is designed for 10,000 people and is part of a number of neighbourhood units which will make up the new town. Three hundred houses have now been completed and fourteen shops and fifteen

NEWS OF THE WEEK

Cost of New Schools

Opening three new schools in Walsall on April 21, Mr. Tomlinson, the Minister of Education, said: "During the past two years, we have been getting increasingly better value for money in school building. For 1950, limits of cost per place were set 12½ per cent. lower than the average for 1949. The great majority of local education authorities have not found it difficult to work within these limits. In fact, on average, schools approved in the 1950 programme have been below the cost limits. Primary schools have cost £158 per place, against £195 in 1949. Average secondary school costs have been reduced from £320 to £272 per place. These savings have been made without reducing the number of school places and without loss of quality. In fact, many of the 1950 schools are much better educationally than the more expensive schools of the 1949 and earlier programmes. For the 1951 programme, the cost limits are 12½ per cent. lower again—making a 25 per cent. reduction in cost compared with the 1949 average.

"It is no good pretending that these still lower cost limits are going to be easy to achieve, particularly as prices for labour and materials are rising. However, I have plenty of evidence from different parts of the country that authorities can achieve the lower costs for their 1951 programme without sacrificing standards. Without any reductions in essential accommodation, and without putting up shoddy buildings which will be expensive to maintain, a number of authorities have obtained tenders within the cost limits since the recent wages increase for the building industry. I am satisfied that we can maintain the current cost limits without loss of education standards and without building badly in the architectural sense."

Mr. Tomlinson said that over 500 new schools, 80 per cent. of them primary schools, had been brought into use since the war and that over 1,000 more were under construction. In addition there were also about £12 million worth of work under construction for major technical education projects as well as £3 million worth for other essential educational purposes. Half a million new school places had been brought into use in five years and another 420,000 were under construction.

Referring to the need for economising to meet the costs of the defence programme, Mr. Tomlinson said: "The Government has no intention of sacrificing the education of our children. We shall not go back on the 1944 Education Act although it is obviously going to take much longer than we had hoped four or five years ago to carry out all the reforms which the Act contains."

Exhibition at Bath

The Bath Assembly, 1951, which is to be held from May 20 to June 2, will this year include an exhibition of the Architecture of Bath, which will be held at the Octagon, Milsom Street, Bath.

The exhibition is being arranged by a Committee which includes members of the Bath Group of Architects, the author of "The Georgian Buildings of Bath," and the Director of the Victoria Art Gallery, Bath. It is being held in conjunction with the Bath Assembly and the Festival of Britain, and will have the fine setting of the Octagon Chapel in Milsom Street, designed by Thomas Lightoler and first opened for worship in 1767. The building's use as a place of worship has now long since been discontinued, but it has been restored and redecorated recently by the Bath City Council and will make an admirable setting for the display of photographs and drawings of the buildings of Bath.

The Exhibition will deal with Bath Architecture in chronological order and will be grouped, as far as possible, under the names of architects, and some contemporary works will be included.

One of the features of the Exhibition will be a special display by the Bath & Portland Stone Firms, Ltd., which will show the processes involved in the working of the indigenous building material, Bath stone.

One of the main purposes of the Exhibition at the Octagon is to provide a stimulating basis for the inspection of the actual three-dimensional architecture of Bath itself, as a plan of the City will relate to actual buildings to be seen, and these buildings are to be named with descriptive plaques which will follow the course of an easy tour which can be undertaken by visitors and students. This tour is being so arranged that each plaque will give directions to the succeeding buildings on the tour.

It is interesting to know that the Festival year Bath Assembly will thus include an orgainsed display of the City's Architecture, for which it is so justly famed.

★

The Festival Church, St. John's, Waterloo Road, which is to be used during the Festival of Britain both as a parish church and as a Christian centre by those churches which participate in the British Council of Churches was re-opened with a service of rededication on Thursday.

★

An Information Bureau has been established at the R.I.B.A. under the direction of Mr. R. W. M. Orme, B.A., Assistant Secretary, to deal with inquiries and to assist Dominion and foreign architects.

★

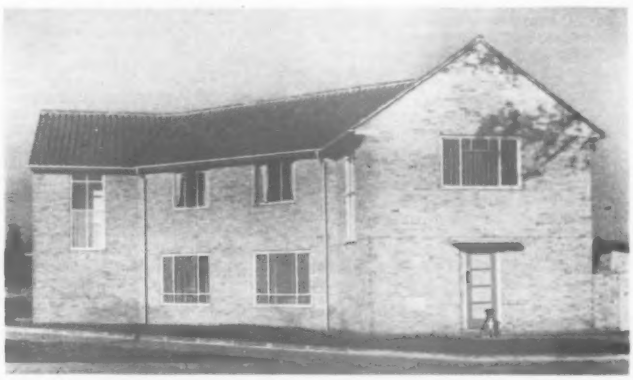
The Forestry Commission has published the results of a census "The Census of Woodlands, 1947-1949," H.M.S.O., price 6d. The total area of actual and potential woodland in Great Britain is given as 3,448,362 acres, of which 82 per cent. are in private ownership.

APPOINTMENTS

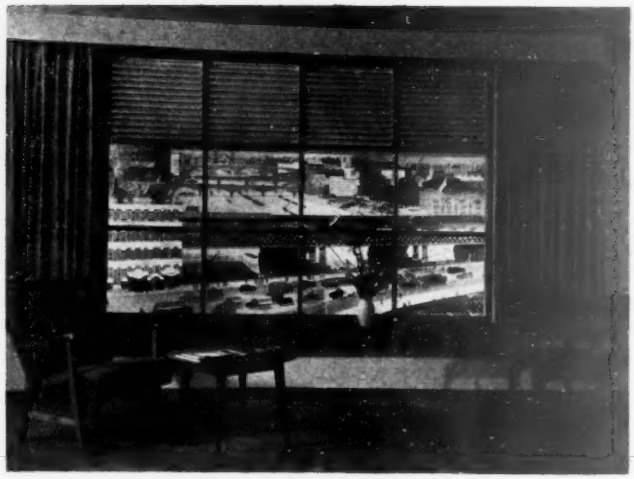
Mr. Francis J. M. Ormrod, B.ARCH., DIP.C.D. (Lvpl.), A.M.T.P.I., F.R.I.B.A., has been elected President of the Liverpool Architectural Society.

The following have been appointed new members of the Building Research Board of the D.S.I.R. for four years from April 1, 1951: Sir Luke Fawcett, O.B.E.; Mr. H. J. B. Harding, M.I.C.E.; Mr. L. C. Howitt, F.R.I.B.A., and Miss J. Ledeboer, A.R.I.B.A. Mr. David Booth, A.A.DIPL., F.R.I.B.A., has been appointed a member of the Forest Products Research Board.

Lieut.-Col. G. W. H. Ryland, F.R.I.B.A., has been elected President of the Cheltenham Chamber of Commerce.



maisonettes are about to be opened. One factory is built and occupied and a second one has been begun. Building on the Adeyfield estate was begun in April 1949, and it is anticipated that it will be complete in so far as the building can be developed by 1953. The area will include schools, shops, post office, public house and a hall. The houses submitted for the award ranged from 2 to 4 bedroom houses with rents from 22/- per week for the smallest to £125 per year for the large type. Four-bedroom and 3-bedroom types shown here.



UNILEVER INFORMATION ROOM

Mr. Charles Kenrick, in co-operation with Publicity Arts Ltd., is the designer of this staff information room which was recently opened at Unilever House. The space available consisted of a sub-basement, with no natural light, in which numerous service pipes and ducts had to be masked without preventing access. With imaginative use of tungsten and fluorescent lighting the lack of natural light has been successfully overcome. Colour and textures are varied and increase the feeling of space. A mural by Clifford Rowe in a window setting also helps to break down the basement atmosphere.

CORRESPONDENCE

Modular Co-ordination

To the Editor of A. & B.N.

Sir,—Economic need in this organisation for a practical method of prefabrication has led me to a preliminary study of modular co-ordination as a means towards rationalising interchangeable components for a multiplicity of small buildings. These buildings have a great number of uses and variations on a single use. In my case the factors that have influenced the adoption, theoretically, of one particular module in preference to any other are as follows:

(a) the basic horizontal module must be related to the human width dimention in plan, i.e., the shoulder width: such a dimension (without clearances) lies between 18 in. and 24 in. with 18 in. physically on the mean side and 24 in. economically extravagant: 22 in. appeared to be a satisfactory compromise.

(b) the experimental application of modular co-ordination is more rapidly undertaken than is the development of a satisfactory method of prefabrication. If traditional materials are used initially the experimental module can be tested immediately in practice. Brick is a material of proved value in railway building and I have found it impossible to consider adoption of a module that is not related to a brick dimension: thus the 22 in. module becomes 22½ in., i.e., 2¼ bricks.

(c) in practice, so far, a 22½ in. module does not give sufficient planning flexibility and I have adopted half that dimension, i.e., M = 11¼ in. (1⅛ bricks) as the basic horizontal module. The vertical module should be related (as other correspondents have pointed out) to standard brick courses of 4 to 12 in. The staircase forms the essential connection between vertical and horizontal modules: a 6 in. riser and 12 in. tread is almost a railway standard for public staircases for which an 11¼ in. (M) tread could be substituted with some slight advantage. Other convenient multiples forming over-modules or planning grid are 2M (1 ft. 10½ in.): 3M (2 ft. 9¾ in.): 4M (3 ft. 9 in.): 8M (7 ft. 6 in.): 16M (15 ft.), etc. For practical reasons concerned with partition thicknesses and the junction of partitions eccentrically to the centre line of module or planning grid) M = 11¼ in. is divided by 5 into 2¼ in. sub-modules which are again divisible by 3 into ¾ in. units.

To amplify or justify at this stage the results given above would anticipate much of the work that still has to be done and would repeat much of the admirably clear statement of potentialities contained in the B.S.I. Committee Report. It seems possible that for a long time to come several "ideal" modules may have to co-exist and each with full justification: nor is it impossible to devise conversion dimensions so that more than one modular system could co-exist in a single building. It is clear that the larger the building and the more open the planning, the more arbitrary does selection of a particular module become and I have been unable to find any decisive reason why the 40 in. module should be adopted in preference to all others. As Bennis admtis in "The Evolving House" the American 4 in. module is based on the standard dimensions of the American timber frame house: from there 10 × 4 in. = 40 in. = 10 × 10 cms. (nearly !) also 3 × 40 in. = 10 ft. I have felt that there might appear to be an almost teleological force behind this decimal and international mathematical relationship which is so powerful a factor influencing its theoretical adoption that one is blinded to its lack of real practical value towards satisfying economically our human needs.

I am, etc.,
P. W. MACIVER,
Senior Assistant Architect.
British Railways

COMING EVENTS

Federation of Master Builders
- April 30, at 2.30 p.m. Annual General Meeting at the Connaught Rooms.

Royal Institute of British Architects
- May 1, at 6.0 p.m. Annual General Meeting.

Architects' Benevolent Society
- May 2, at 12 noon. Annual General Meeting at 66 Portland Place, W.1.

Town and Country Planning Association
- May 2, at 6.15 p.m. "Housing London's Millions," Speaker: Lady Pepler.

Institution of Sanitary Engineers
- May 3, at 6.0 p.m. Discussion on Civil Engineering Code of Practice No. 5. "Drainage (Sewerage)." To be opened by F. J. Crabb.

Students' Planning Group
- May 3, at 6.15 p.m. "The Human Scale in Planning." Speaker: F. J. Osborn.

British Colour Council
- May 4. Dinner and Dance.

Institute of Registered Architects
- May 4, at 6.30 p.m., at the Housing Centre, 13 Suffolk Street, S.W.1. Annual General Meeting of the Branch. "Practice Problems." Speakers: J. Swarbrick and N. Martin-Kaye.

EXHIBITIONS

Exhibition of Exhibitions, at Royal Society of Arts. May 1 to September 30, 10 a.m. to 6 p.m. Admission 1s.

Sculpture in the Open Air, at Battersea Park. May 7 to Mid-September, 10 a.m. to dusk daily. Admission 1s.

* * *

The Metal Window Senior Entrance Scholarship at the Architectural Association School of Architecture has been awarded to Mr. W. M. Glendinning of Co. Armagh (Belfast College of Art). The scholarship (value £50) is presented by the British Metal Window Manufacturers Association Ltd.

OBITUARY

The death was announced on April 20 of Lieut.-Colonel Arnold Fielder Hooper, O.B.E., T.D., F.R.I.B.A., F.R.I.C.S., of Beckenham.

I.U.A. Congress

An announcement of the forthcoming Congress of the International Union of Architects in Morocco from September 23-30 has already been published and details of the proposed programme have been given.

Architects from the United Kingdom proposing to attend the Congress will be able to draw French currency additional to and apart from their basic annual allowance for holiday purposes. The Bank of England have agreed to the provision of currency at the rate of £5 per day for a period of ten days for architects attending the Congress, but this concession will not be extended to their wives or families. The latter will have to draw on their basic annual allowance of £100.

Applications for currency should be dealt with through Messrs. Thos. Cook & Son, Berkeley Street, Piccadilly, W.1, who will arrange for the form "T.2" to be countersigned by the Secretary, R.I.B.A.

Messrs. Thos. Cook & Son have also been entrusted with the collection of the Conference registration fee of 3·50 francs which must be deducted from the currency allotment.

The arrangements described above do not, of course, prevent architects from drawing on their annual holiday currency allowance of £100 which they may spend additionally while in Morocco, if they wish.

IN PARLIAMENT

The Building Ratio

THE private building ratio was raised in debate in the House of Commons on April 17 by Mr. Gilbert Longden. As a general preface he asserted that in the whole catalogue of Government failure there was no blacker page than the failure to create the conditions in which the building industry could solve the housing problem. If it had been tackled with vigour, with even average administrative ability, and without doctrinal prejudice, it could have been solved before now.

In the four local authorities' areas in his constituency of South-West Hertfordshire an average of some 300 houses a year had been built in the past four years; but out of a total population of about 70,000 there were still 2,100 unsatisfied applicants for council houses and 500 unsatisfied applicants for private building licences.

In many council houses to-day there were tenants who would gladly build their own homes and thus leave the council houses free for others who would not. There were many other tenants whose incomes were such as to make it exceedingly inequitable and uneconomic that the rents they were paying should be subsidised. He welcomed the recent statement of the Minister that he would consider sanctioning a higher ratio than one to five in certain circumstances; but he asked how many authorities had applied for a higher ratio, and how many such applications had been granted.

Until control ceased to be necessary, could not the proportion of private licences be left to the discretion of local authorities?

Mr. Lindgren, Parliamentary Secretary to the Ministry of Local Government and Planning, began his reply with a description of Mr. Longden's speech as "typical Tory humbug," and a denunciation of Tory landlordism over the past hundred years. The Government had attempted, and succeeded, in building houses to meet the greatest need, for those who could only afford to rent. The Minister had repeatedly stated that where a local authority, by performance, proved that it had resources within its area to build more houses, the greater would be the allocation to that area. It had been known to local authorities right from the start of allocations that if they had a special case for a change of allocation it would be considered. In Chorley Wood—in Mr. Longden's constituency—advantage had been taken of that, and after analysis of the need the Minister had agreed that the authority had made their case for a ration of three to one, and had approved an increase in the ratio of private licences.

There had been 75 special applications for a change in the ratio and nine had been granted. The Ministry was prepared to give sympathetic consideration to such claims where the need had changed. They were not prepared to allow local authorities to neglect one of their primary duties—to provide houses for those in the greatest need, not for those who had the greatest means.

PLANNING

The first of a new series by "E. & O.E." on Hostels will appear in next week's issue.

Report of Meeting at the R.I.B.A.

A DISCUSSION meeting for the exchange of views between architects and representatives of voluntary and statutory bodies concerned with the housing of old people was held at the R.I.B.A. on Friday afternoon, April 13. The Chair was taken by Mr. H. S. Goodhart-Rendel, P.P.R.I.B.A., and addresses were given by Sir Edward Bligh, Chief Officer of the Welfare Department of the London County Council; Mrs. M. N. Hill, Chairman of the Hornsey Housing Trust, Chairman and Founder of the Hill Homes, and a member of the Advisory Council of the National Corporation for the Care of Old People; and Mr. A. Llewellyn Smith, M.B.E., M.A., F.R.I.B.A., Architect to the Shoreditch, Hackney and Highbury Housing Association.

Sir Edward Bligh said there were about five million old people in this country and 95 per cent. of them lived in the ordinary way in the general community and wanted to continue to do so. One of the main aids to their doing this was provided by the architectural profession in the form of the housing which was built for old people. The general aim of the local authorities now was to allocate 5 per cent. of their new building to old people, and such housing was generally provided in the form of two-storey flats or bungalows.

With regard to the homes provided by local authorities in which old people could receive care and attention, the general opinion was that these homes should be small, but many old people preferred to live in the large homes, which had been very greatly altered since the days when they were known as workhouses. There was great scope for the skill and imagination of architects in adapting these large buildings in such a way as to make them homely and pleasant. Although the London County Council was doing a great deal in the way of replacing large homes by small ones and accepted the principle that small houses were preferable, 4,800 of the 6,000 old people in the care of the London County Council were still in large homes.

Mrs. M. N. Hill stressed the need for adapting existing houses to provide accommodation for old people. In the area which she knew best there was a population of about 80,000, of whom about 13,000 were old age pensioners. Since the war 50 houses or flats had been built for the old and 20 more were being planned, making a total of 70. In other words, the new houses in built-up areas were almost negligible in number and were likely to be so for a long time to come.

A certain number of the 13,000 old people in her area were living with their relatives, but that number was continually decreasing, owing to the fact that family accommodation was usually barely enough without any additional member. Many old people were very unhappy because they felt that they were taking up rooms that were needed by the children and were overcrowding their families. One case she remembered was that of a young man who had just come out of the Royal Air Force and who said to her: "I have been very fortunate in getting a bungalow with two bedrooms, but I have in it now not only my wife and two children but also my mother, my grandmother and my aunt. If you could remove my grandmother I I think we could manage." That was not at all an exceptional case.

One argument for the immediate building of a certain number of small houses for old people was that if an old couple or an old single person could be offered good alternative accommodation they would be willing to leave houses which were too large for them, and those houses would then become available for family use. This question did not concern only the very poor, for many old people with a certain amount of money would be really thankful for small and comfortable flatlets in exchange for their own houses.

The Housing Trusts had done much good work in providing accommodation for old people. The Churchill Homes had adapted about forty houses and provided excellent accommodation for old people in small flatlets, and in some of the more modern houses they were providing a mid-day meal. Eighteen years ago she had started a Housing Trust in her area, and it had provided accommodation for about two hundred old people in fifty houses. The majority of these flatlets were practically self-contained, with the exception of the

Continued on page 489.

The administrative wing is on the left ; factory on the right.

FACTORY AT SUGAR HOUSE LANE, E.15

architects: CECIL C. HANDYSIDE, A.R.I.B.A.
in association with HAMMETT & NORTON, AA.R.I.B.A.
consulting engineer: FELIX SAMUELY, B.Sc., A.M.I.C.E.

THIS new factory has been built to replace several small factories of the same floor area which were destroyed during the war.

There are three factory areas, each with its own lavatory and cloakroom accommodation, which are arranged so that they may be used as a whole or as self-contained units; each with direct access to the common canteen.

The ground floor factory has been specially planned to be used initially for stone machining with alternative use as a joiner's shop. The north light roof is designed to give an even natural light at bench top level. The factory areas on the upper floors are for general use.

The cloakrooms, lavatories, kitchen and caretaker's flat have been grouped in one block at the west end of the factory to simplify all services.

CONSTRUCTION

Three types of construction were used for this building:

1. The canteen and administrative block is of orthodox beam and column construction in structural steelwork.

2. The three storey factory block consists of Portal frames (three, one above the other) and each of these Portal frames was shaped to suit economic and architectural requirements. The two lower frames have, of course, a horizontal beam, but the pitched roof sloping both ways gave an opportunity for a more economical shape for the top frame (8 in. x 4 in. R.S.J.)

For the two lower frames, ground and first floor, instead of having a rigid column the vertical part of the frame consisted of a thin column and an inclined strut. Each column and strut, together with the connecting plate on top were assembled and welded in the workshop. After these were erected, the beams were laid on top and bolted into position.

3. The roof over the single storey workshop is actually a space frame, but the component parts, which were fabricated in the workshop were constructions in one plane, so that the costs were reduced to those of ordinary steel construction.

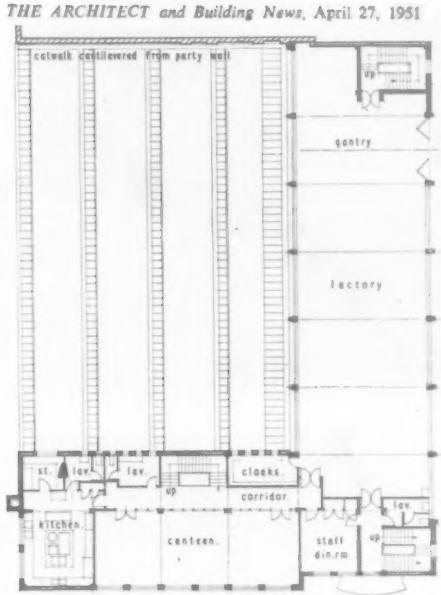
The space frames consist of a series of inclined latticed girders forming a North Light roof. Each two consecutive girders have a common upper and lower cord. The short girders, that is, those in the plane of the glazing, were fabricated complete in the workshop, and the long girders, in the other plane, were assembled at the site between the cords of the short girders, which they have in common.

In this way it was possible to span over an area of 6,100 sq. ft. with only one row of intermediate columns, and without any projecting beams under the actual North Light roof. Also, the total quantity of steel was only 4.74 lbs. per sq. ft. of floor area including columns, etc.

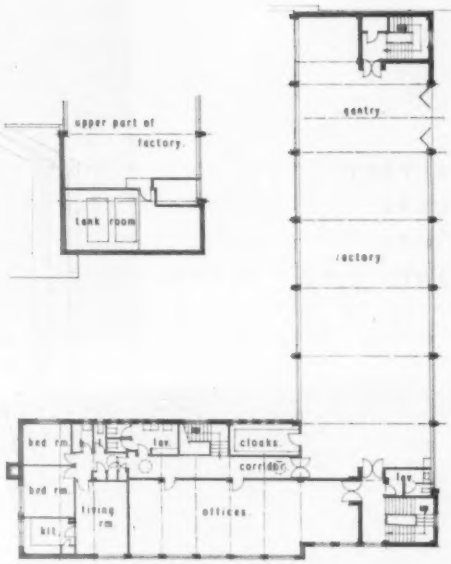
The lower cords of the girders consist of 3 in. x 1½ in. channels, and the upper cords of 4 in. x 2 in. channels. Separate purlins were arranged, which, for convenience were not incorporated into the actual latticed girder system.

The floors throughout are in situ reinforced concrete, generally with granolithic finish.

External walls are 11 in. cavity brickwork comprising an external skin of rustic flettons or London stocks, and an internal skin of common flettons. All internal partitions and walls, except in the caretaker's flat, are 4½ in. common flettons. Brickwork generally is left fairface. The partitions in the caretaker's flat consists of Broad Acheson hollow vibrated cellular clinker blocks, plastered both sides.

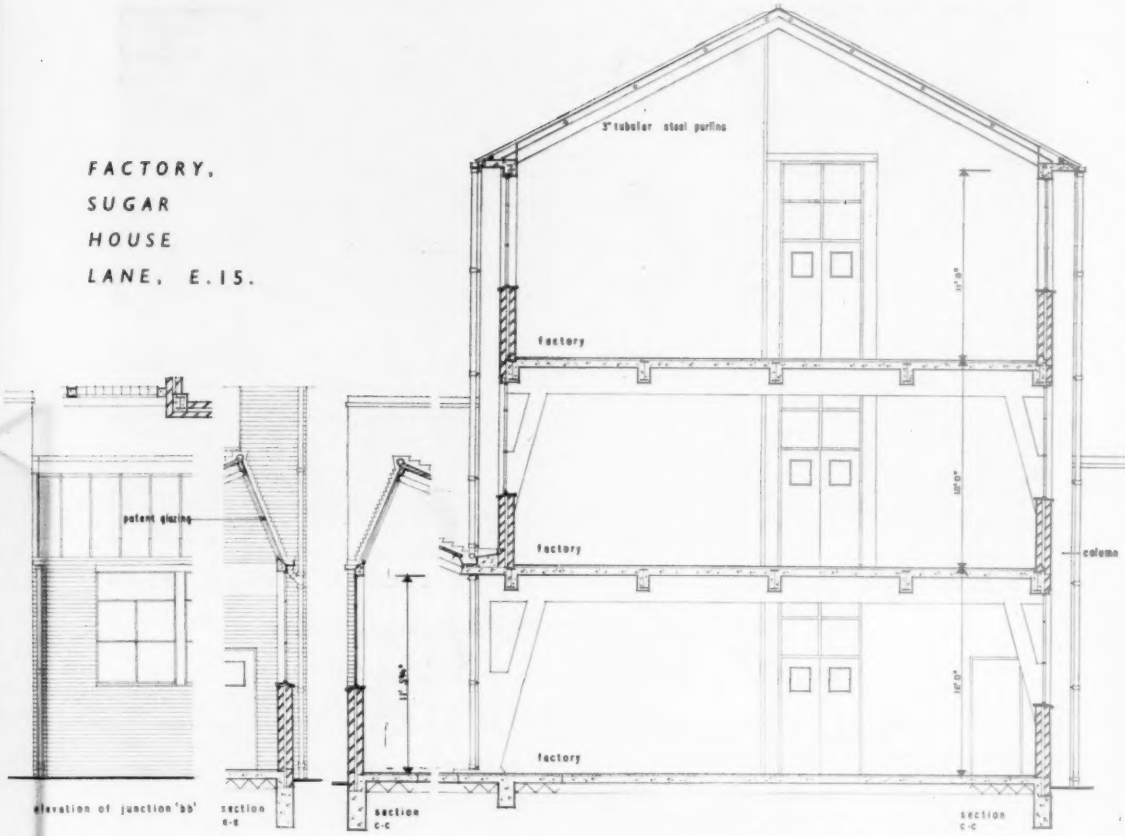


FIRST FLOOR PLAN

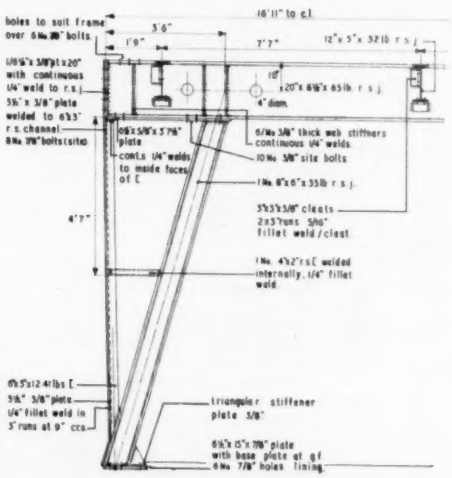


SECOND FLOOR PLAN

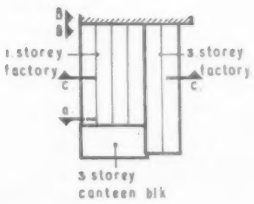
FACTORY, SUGAR HOUSE LANE, E.15.



section through factory. scale : $\frac{1}{8}$" = 1 ft.



$\frac{1}{4}$" detail of column and street to ground floor frame in 3 storey factory.



architects:
CECIL C. HANDYSIDE
in association with
HAMMETT & NORTON

Views of the ground floor factory and second floor factory with sloping portal frame structure

Purpose made and standard metal windows with pressed metal external cills and quarry tiles internal window boards.

The pitched roofs are covered with big 6 asbestos cement sheeting and lined internally with ½ in. insulating board. Aluminium bars are used for the roof glazing. The flat roof is covered with 3-ply bituminous felt laid on ½ in. insulating board. All gutters are pressed metal.

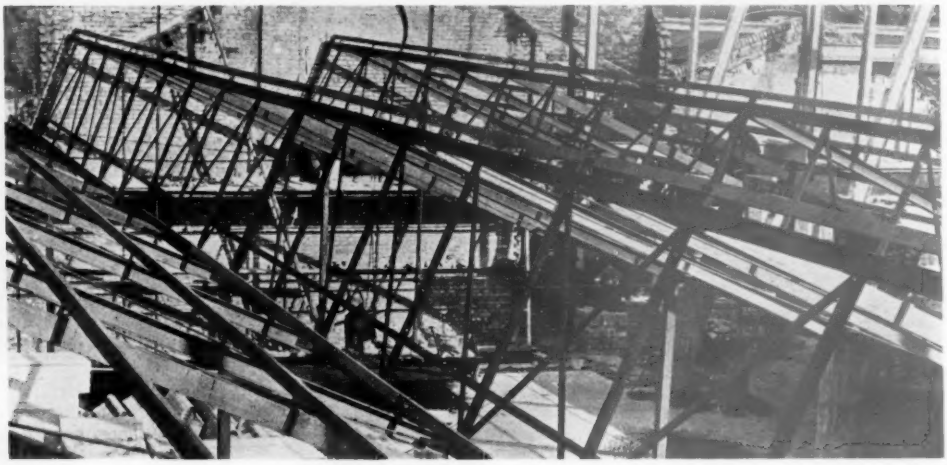
The machining is fairly close and repetitive work and so bright arresting colours have been put on the solid walls to provide a "distant" attraction for the eyes, and to make the place as cheerful as possible. Colours in the stone inspection area have been chosen to provide a good background for viewing the stones. The service pipes and conduits have been painted for easy identification in accordance with the British Standards Specification.

SERVICES

Heating is by means of a hot water system with unit heaters in the factory areas and radiators elsewhere.

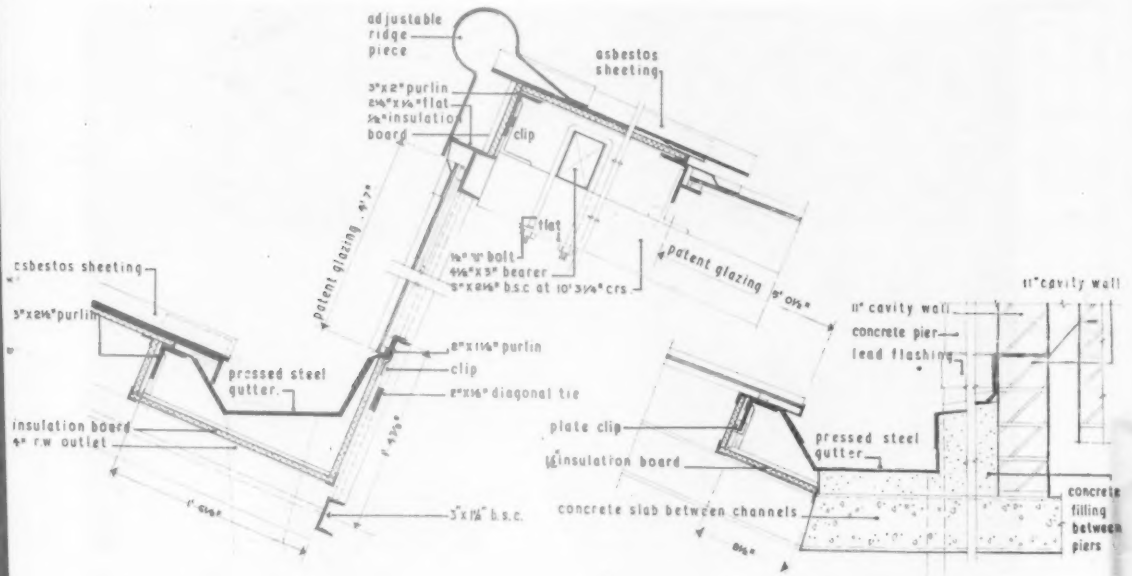
Practical tests were carried out to find the best form of artificial lighting for the stone machining factory. It was found that the best light is obtained for the machine operators when the general lighting is fluorescent and each machine provided with an individually controlled tungsten light over the working area. The lighting in the other factory is fluorescent, and the remainder of the building is tungsten.

The roof over the single storey workshop is actually a space frame consisting of a series of inclined latticed girders forming a North light roof. Below is a progress photo.



GENERAL CONTRACTORS: GRIGGS & SON.

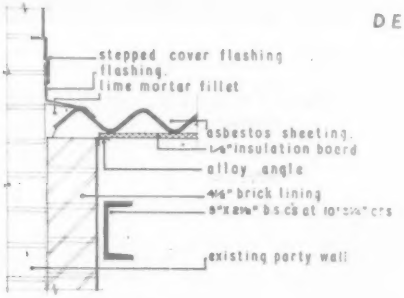
Bituminous Felt Roofing: Standard Flat Roofing Co. Ltd.
Doors: Morgan & Partners Ltd.
Dome Lights: T. & W. Ide Ltd.
Door Furniture: F. Knight & Co. Ltd.
Dust Extracting Plant: Keith Blackman Ltd.
Electrical Installation: Drake & Gorham Ltd.
Floor Covering: Dellow Lancashire & Co. Ltd.
Floor Tiling: Carter & Co. Ltd.
Glazing: Mustill, Wallis & Co.
Granolithic and Paving Cast Stone: Malcolm Macleod & Co. Ltd.
Heating and Hot Water Services: Arthur Scull & Son Ltd.
North Light Glazing: Williams & Williams Ltd.
Paint: William Harland & Son Ltd.
Plumbing and Drainage: Lakers (Sanitation & Heating) Ltd.
Precast Stone: William Knight & Co. Ltd.
Sanitary Fittings: John Bolding & Sons Ltd.
Sliding Door Fittings: E. Hill Aldam & Co. Ltd.
Staircase Balustrades: S. W. Farmer & Son Ltd.
Steelwork: Commercial Welders Ltd.
Windows—Metal: W. James & Co. Ltd.



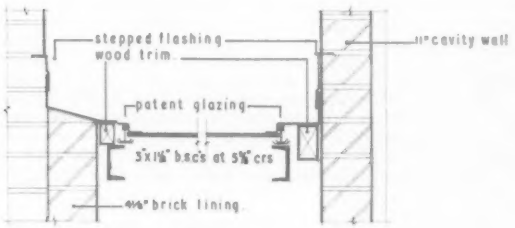
Ridge and gutter detail

Junction with 3-storey factory

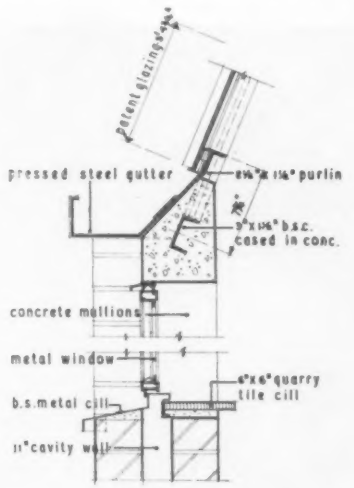
DETAILS OF NORTH LIGHT ROOF Scale: 1"=1ft.



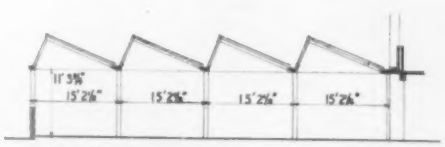
Roof junction with party wall



North light glazing junction with party wall and new cavity wall



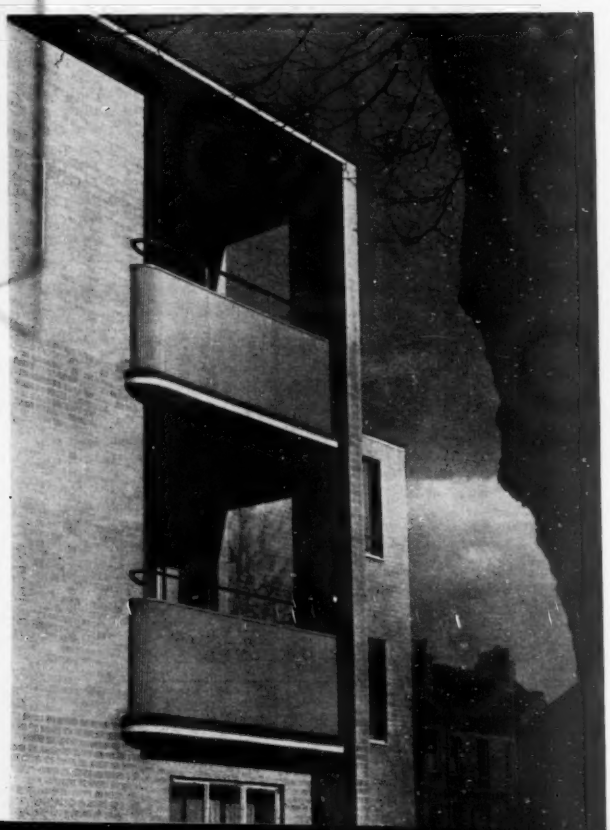
Typical section, north end



section thro. factory

FACTORY

SUGAR HOUSE LANE, E.15



HESLOP COURT FLATS

for Wandsworth Borough Council

architects: POULTON & FREEMAN F.F.R.I.B.A.

assistant architect: Peter Stephens

THE flats take the place of houses demolished by bombing during the war. There are 12 flats, c4 with 2 bedrooms and 8 with 3 bedrooms.

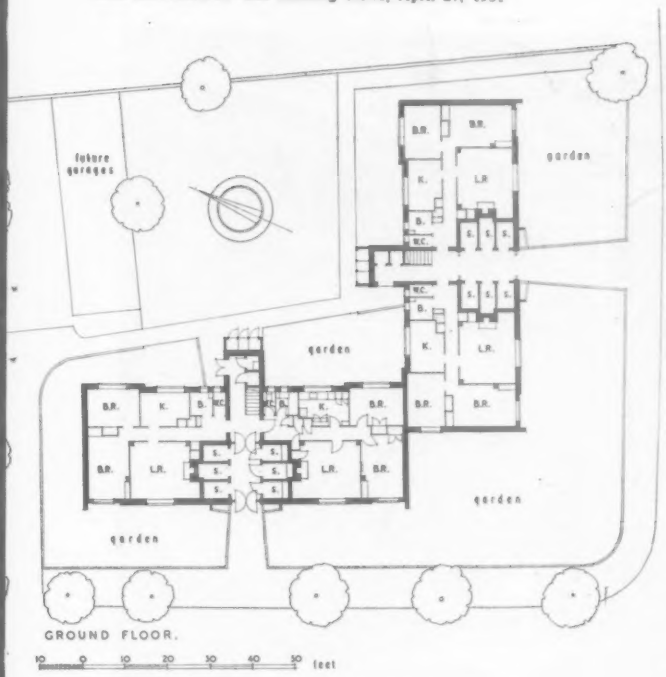
ONSTRUCTION

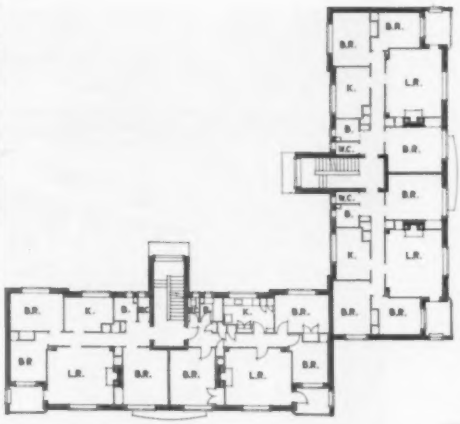
External walls are load bearing common brickwork with orthodox foundations. Special foundation works had to be executed in the centre of block to fill in a large bomb crater. There is a centre spine of reinforced concrete columns and continuous beams which support the hollow block reinforced concrete slabs for floors and roofs. All slabs are cast over wood wool permanent shuttering. All partitions are built of hollow blocks.

Living rooms are equipped with continuous burning fires with back boilers for supplying hot water. Immersion heaters are fitted in storage cylinders for summer use. Each flat has a gas-heated drying cupboard.

FINISHES

Facing bricks are light buff Uxbridge Flints, while side panels to the entrance doors are white Uxbridge Flints. External concrete work is finished in a cement paint. Internal walls to staircases and entrance halls are fair faced light buff Uxbridge Flint. Ceilings are plastered, mainly on wood wool permanent shuttering Floors and entrance halls to staircase are buff coloured grano.

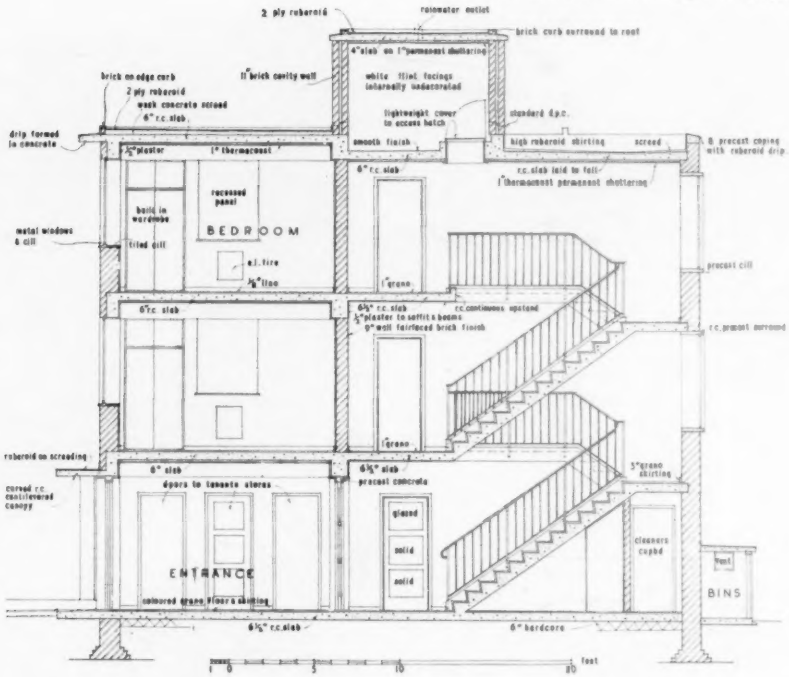




Front Elevation
Scale 1/32" = 1 ft.

Floors in flats are finished with Cellulin 2 mm. linoleum on screed, except in bathrooms, w.c.s and kitchens, which are finished with composition tiles. Window sills are finished with eggshell buff tiles. The interior walls of kitchens, bathrooms and w.c.s are finished in cement paint; living rooms and bedrooms and halls are distempered.

GENERAL CONTRACTORS: FLOWITT & CO. LTD.
Accotile Floors: Armstrong Cork Co. Ltd.
Bricks: Uxbridge Flint Brick Co. Ltd.
Decoration—Walls and Ceiling: (Exelaero and Cementone No. 7): Joseph Freeman, Sons & Co. Ltd.
Doors, Cupboards and Sink Fittings: Rippers Ltd.
Door Furniture and Ironmongery: Yannedis & Co. Ltd.
Drying Cabinets: Ranelagh (London) Ltd.
Electrical Installation: London Electricity Board—S.W. Sub area.
Flat Roofs and Balconies: The Ruberoid Co. Ltd.
Gas Installation: South Eastern Gas Board.
Granolithic Floors: F. Bradford & Co. Ltd.
Hollow Blocks: Broad & Co. Ltd.
Hot and Cold Water Installation: Dent & Hellyer Sanitation Ltd.
Linoleum Floors: Cellulin Flooring Co.
Paint: I.C.I. Paints Ltd.; Silexine Paints Ltd.
Panels to Bath and Duct Covers: Warerite Ltd.
Plastering: W. Greenslade Bros.
Railings to Balcony and Staircase Handrail: J. Starkie Gardner & Co.
Sanitary Fittings: Dent & Hellyer Ltd.
Structural Reinforced Concrete Work and Precast Frames: F. Bradford & Co. Ltd.
Tiling: S. A. Forbes & Son.
Ventilators: Greenwood's and Airvac Ventilating Co. Ltd.
Windows: Crittall Manufacturing Co. Ltd.



Garden elevation

HESLOP COURT FLATS

architects: POULTON & FREEMAN

FLATS, JAMESON ROAD, BEXHILL-ON-SEA

architects: ERIC LYONS & G. PAULSON TOWNSEND, F/LR.I.B.A.

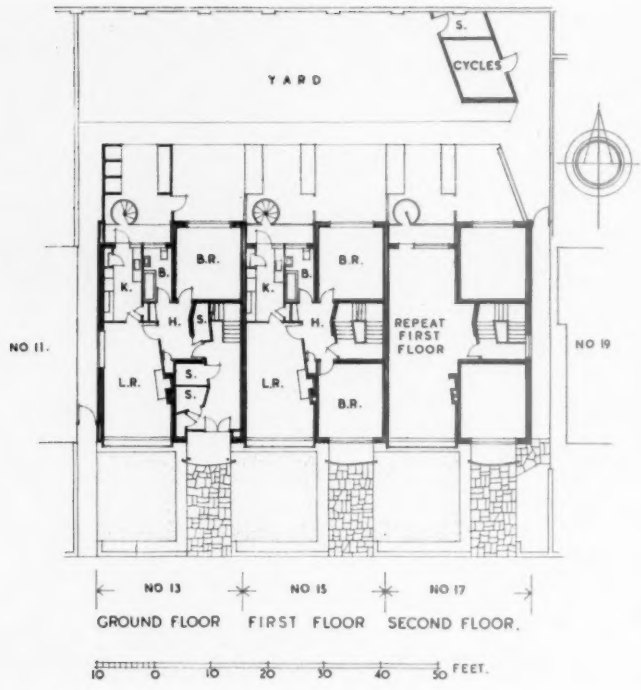
THIS scheme is basically the rebuilding of three war-destroyed houses, and a "permissible amount" was agreed with the War Damage Commission based upon the cost of reinstating the properties as previously existing. It was therefore necessary that the existing hereditaments should be retained, hence the three separate entrances and staircases. In effect each house has been rebuilt in the form of three flats with service access from the rear gardens.

As is usual, it was required that the new building should be "in keeping" with the adjoining properties, and the elevational treatment is the result of some compromises to meet the objections of the Town Planning Committee.

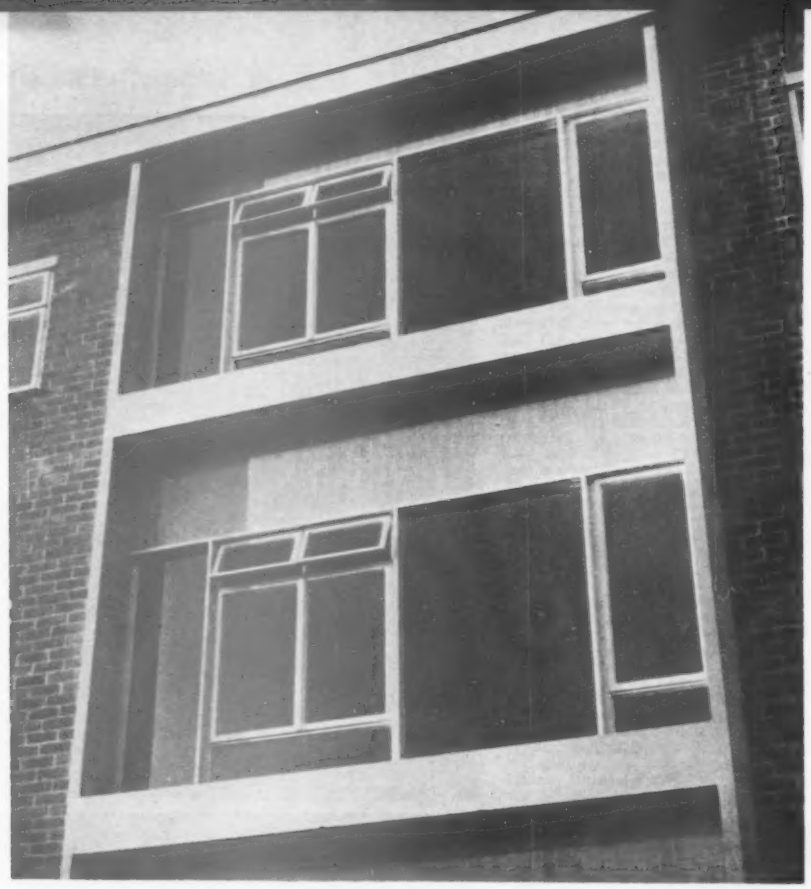
CONSTRUCTION

External walls—11 in. cavity brickwork. Internal walls—9 in. brick and 2½ in. hollow block partitions. Floors—Solid in-situ concrete finished 1 in. boarding on 2 in. battens on "Cabots" quilt. Internal staircases—In-situ concrete, finished with rubber tiles and nosings. Roof—Solid in-situ concrete, laid 3 in. foamed slag screed finished, 3 ply built-up roofing. Heating—Hot water is supplied by back boiler in living room fireplace with electric immersion heater in cylinder as alternative. Flowerboxes—Concrete window surrounds and flowerboxes were cast in-situ. Porch hood—In-situ concrete slab on steel tubular columns covered in 24 G. copper sheet. Garden paving—Paving is in 2 in. thick precast concrete slabs laid with 1 in. sand joints. Fireplaces—in 2 in. facing bricks, with York Stone hearths. Stairwells to two houses are lit by 6 ft. diam. glass domes.

Back walls of service balconies are painted lavender, primrose and pink. The spiral staircases are a standard type.



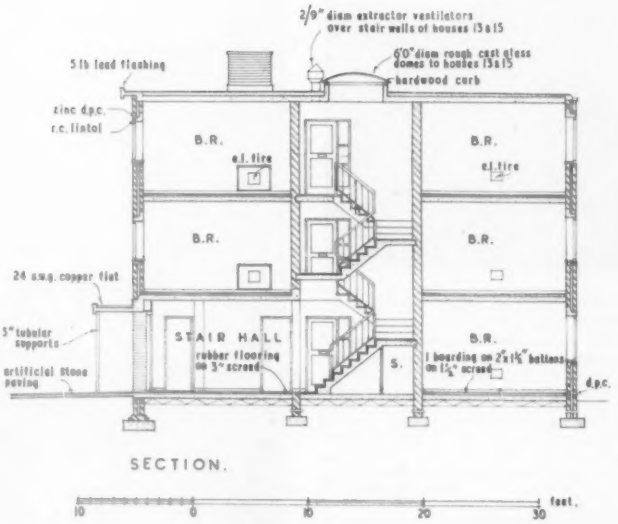
Canopy tops are finished in copper-sheeting. The facing bricks are a local red brick.



The tiling above the windows is pale blue

GENERAL CONTRACTORS:
Y. J. LOVELL & SON LTD.

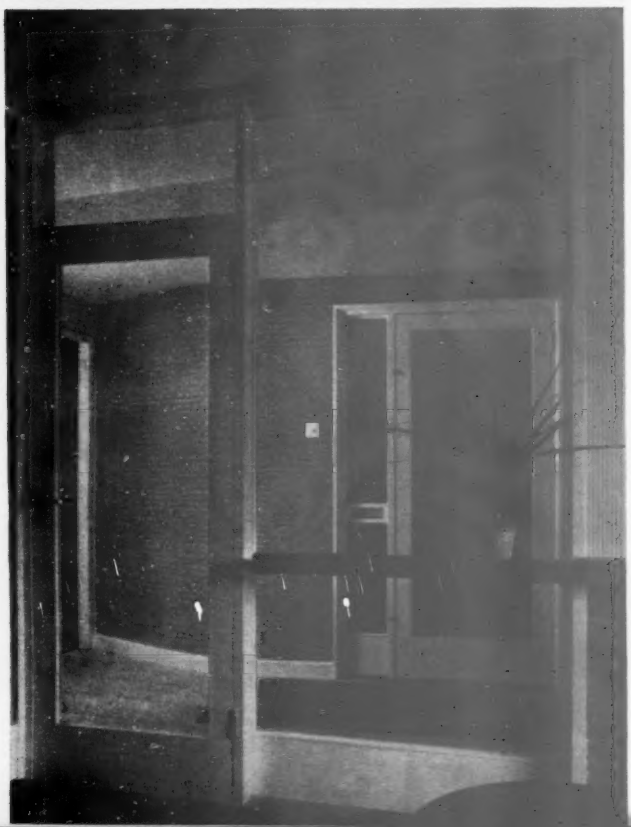
SUB-CONTRACTORS AND SUPPLIERS:
Back Boilers: Newton Chambers & Co. Ltd.
Bricks—Facing: Guestling Kiln stock machine made sand-faced.
(To fireplaces) The Sussex & Dorking United Brick Co. Ltd.
Concrete, Reinforced Floors and Roof: The Trussed Concrete Steel Co., Hy-Rib Dept.
Doors—Flush: Leaderflush Ltd.
Door—Metal Frames: Henry Hope & Sons Ltd.
Domes—Glass: R. Seddon & Sons Ltd.
Electric Fires: Bratt Colbran Ltd.
Electrical Installation: Braine & Parris.
Floor Insulation: "Cabot Quilt," Huntley & Sparks Ltd.
Flooring—Rubber: The Rubbalux Co.
Fitments, E.J.M.A.: Built-In Fixtures Ltd.
Ironmongery: Stedall & Co. Ltd.; A. J. Binns Ltd.
Paint: I.C.I. Ltd. (Paints Division); Silexine Paints Ltd.
Partition Blocks: London Brick Co.
Plastering: A. E. Cosham.
Refrigerators: Electrolux Ltd.
Roofing—Built-Up: Wm. Briggs & Sons, Ltd.
Sanitary Fittings: John Bolding & Sons Ltd.
Signwriting: The Lettering Centre.
Staircase, Balustrades and Service Stairs: S. G. Day.
Wallpaper: John Line & Sons Ltd.
Windows—E.J.M.A.: J. Alsford Ltd.



SECTION.

FLATS
JAMESON ROAD
BEXHILL-ON-SEA

architects:
ERIC LYONS &
G. PAULSON TOWNSEND
F/L.R.I.B.A.



Top view shows a typical living room. Below is view through the living room door. Only the wall above the fireplace and the entrance door wall are papered.

HOUSING NEEDS OF THE OLD

(*continued from page* 475)

bathroom, and this had been achieved by the construction of a small lobby out of which both bedroom and sitting-room opened. Each flatlet had either an enclosed sink or a kitchenette and all had gas cookers. As these houses were rent restricted, the original low rents of from 4s. to 10s. per week for one or two rooms, including rates and the cleaning and lighting of stairs and landings, etc., were still paid. The reconstruction of the houses had been simple and cheap.

Old houses of fairly good structure existed in their thousands and more use should be made of them. They were much more easily converted for the use of old people than for family use; It was usually difficult to make flats in older houses sufficiently self-contained for families. The aim should not be perfection for the few and nothing for the rest. Generally speaking, older people were content with simple dwellings, provided that they had the necessary conveniences, and they did not desire labour-saving devices on any large scale. The cost of conversion was very much less than the cost of new building, and in some reconstructions it might be possible, in a really large house or group of houses, to instal central heating and constant hot water. The older type of house had certain advantages over new building in that the rooms were larger and less uniform in design and would accommodate the large furniture which many old people possessed.

In such accommodation many old people could live quite happily to the end of their days, but if they became crippled or lived to extreme old age they needed to be taken into residential homes. There were many ways of arranging such homes, and she would hesitate to say that one was better than another. The happiness and comfort of the old people depended very much more on those who were running the homes than on the arrangement of the homes. Many old people preferred to have single rooms, but some, especially those in extreme old age, liked to have someone sleeping in the room with them. It was not a good plan to have very large sitting-rooms in which people congregated for many hours of the day; it was better to have a series of smaller rooms.

In the past, comfort for the body had been the first consideration in hospital and home and very little consideration had been given to occupation and delight for the mind, but she liked to think of old people as personalities who needed simple care, with opportunities for activity and mental happiness. Luxurious country houses for old townspeople did not usually afford mental happiness but caused an acute sense of loneliness.

Housing for the old should include possibilities of recreation, and it should be realised that the possibilities of occupation, social life and diversions were more important than perfection of the house and ideal cubic dimensions.

Mr. A. Llewellyn Smith said that it was easy to form in one's mind a picture of the ideal cottage or flat for people of advancing years— a simple labour-saving dwelling with warm and cheerful rooms carefully screened from draughts, flooded with sunlight from large windows and with an open fire blazing on the hearth. It must be realised, however, that an open fire involved the carrying and filling of coal scuttles, the laying and stoking of the fire and the removing of the cinders, and it only partly warmed the room. Also, large windows involved considerable heat losses and draughts unless the effects were counteracted by central heating.

Most of the ideal requirements (except the open fire) could, however, be combined in a single dwelling, provided that the cost of them could be met, and the question was therefore mainly an economic one. The problem throughout the country was so vast that it was essential to look at it in the right perspective. The real problem was to find the very simplest and cheapest form in which suitable houses for elderly people could be provided. The higher the cost of the individual dwelling, the fewer the dwellings that it would be possible to provide.

With regard to the siting of old people's dwellings, they should be as near as possible to the neighbourhood where the old people had previously lived and within easy reach of their relatives and friends. Seclusion was not important, because old people did not seem to be worried by the noise of traffic, and they did not like to feel that they were cut off from the main stream of life. A public garden where they could sit in the sun and watch children playing around them was a great boon to old people. These conditions might be fairly easy to realise in a village or a country town, but they implied a relatively expensive site in the case of a large built-up area. In the case of the Newcombe estate at Highbury, where an old vicarage garden had been acquired on very favourable terms at the beginning of 1947, the cost of the land and the legal expenses had worked out at about £70 per head, but he doubted whether the average cost of land per head for old people's dwellings in built-up areas was likely to be much below £100. As compared with this, the cost of buildings, land and legal expenses in three recent conversion schemes had worked out at about £192 per head.

As to the type of dwellings suitable for old people, bungalows were ideal but any general development averaging less than three storeys in urban areas was uneconomical. It seemed that old people preferred two-storey cottages to flats, but it was surely better for them to live in a flat on the first or even the second floor, where their rooms were on a level and they had to go up and down stairs only when leaving their flat and returning to it. He would also suggest that, although it was important that old people's dwellings should not be segregated in separate colonies but should be interspersed amongst dwellings intended for other age groups, no attempt should be made to combine old people's dwellings and family dwellings within the same building.

Old people's dwellings had few special requirements compared with other types of housing, but there were certain details which should be provided, such as wall hand-rails on staircases in addition to the balustrade on the outer edge, grab-rails for baths, and so forth.

As far as heating was concerned, old people had a sentimental attachment to the open coal fire, in spite of its inefficiency and other drawbacks, but he thought the proper course to adopt was to instal central heating throughout, wherever it was economically possible, and to provide fixed gas or electric panel fires for occasional use. If central heating was installed, it would obviously be sensible to provide also a central hot water supply.

The cost of housing elderly people by means of new building was so great that the question arose whether the problem ought to be tackled in this way at all. He thought that the minimum cost of housing old people in new bed-sitting-rooms was about £1,000 per head, whereas in the case of three small conversion schemes carried out between 1947 and 1949 the average inclusive cost had worked out at £406 per head. To bring that up to date 10 per cent. ought to be added, making the figure £445. The cost of providing central heating and a central hot water supply would be about £53 per head. Each of these converted houses provided bed-sitting-room accommodation for from five to eight old ladies as well as a flat with two or three bedrooms for the caretaker and his family, whom he had included in calculating the cost per head. The caretaker was not an employee; he went out to work, but he and his wife were available to attend to the old people in emergency at night and to obtain help when required, and they also looked after the garden. Each bed-sitting-room had its own simple kitchen fittings, and a bathroom and water closet were provided on each floor and shared by two or three tenants. It was a very simple matter indeed to convert large old-fashioned middle-class houses of the terrace type into bed-sitting-room accommodation of this kind. Under the Housing Act, 1949, grants could be obtained towards the capital cost of conversion or improvement schemes.

In a discussion which followed, Mr. R. W. Steele stressed the waste of fuel involved in the use of the open fire and urged that central heating should be supplied whenever possible in accommodation for old people. Its cost, he said was 0·8d. per cubic foot of heated space. Mr. Ronald Gardner suggested that background heating and air conditioning should be provided in old people's homes and said that the air conditioning would enable a saving to be effected in the cost of cleaning. He also emphasised the need for good lighting, in order to reduce the high accident rate amongst old people. Miss N. Grange (Regional Officer, Women's Advisory Council on Solid Fuel) made a plea for the open coal fire, on the ground that old people liked it and did not mind attending to it, and she was supported by Mr. C. W. Steedman (Borough Surveyor, Wembley), who said that old people did not want central heating; they liked open grates, which supplied all their needs and were very simple to look after. In Wembley, he said, bungalows for old people were being built at a cost of just over £400 per person, plus a further £80 for the land, roads and sewers, and they were let at 8s. per week.

The meeting concluded with a vote of thanks to the three speakers, proposed by the Chairman.

CURRENT MEASURED RATES (LONDON)

These apply to new work of normal character and some size. The rates are for time and materials only, and carry 10 per cent in excess, so the appropriate essential on-costs should be added. The basis cost of material used in the calculation of these prices is taken from the foregoing table.

ESSENTIAL ON-COSTS

Fees payable to the London County Council in respect of services rendered by the District Surveyor:

For new buildings of ordinary construction exceeding 5,000 cubic feet, for every 1,000 feet or part of same up to 1,000,000 cubic feet 1*s.* 6*d.*, together with an additional sum of £1 10*s.*	£1 10 *at* + 1/6
After which allow per 1,000 do.	*at* +9*d.*
For alterations and additions:	
When £100 the sum of £2 10*s.*, and a further 12*s.* 6*d.* for every £100 or part of same beyond, up to £1,000	£2 10*s.* *at* +12*s.* 6*d.* per 100
When over £1,000 the sum of £8 2*s.* 6*d.*, and for every £100 or part of same beyond 3*s.*	£8 2*s.* 6*d.* *at* +3*s.* per 100
Fees in respect of public buildings are as above but but with fifty per centum added	+50%
Fees in respect of means of escape in case of fire are 1/5th of the above or the sum of £2 if greater or in the case of a one-storey building £1	1/5th
Steel framed or reinforced concrete buildings carry a fee of twice times the above	× 2

Allowance to cover National Insurances, Holidays with Pay and Public Holidays, Welfare, Third Party Risk, Travelling and Guaranteed Week is made in the rates attached to the items.

Allow for Fire Insurance do.	½%
Allow for Water for use on the works and apparatus do.	½%
Allow for hoarding, gantry or similar licences in the City of London	say £10
Do. under Borough Councils per ex month	say 2/6
Allow for Office, Fire, Attendance on Clerk of Works, etc., per week	say £1

Supervision, etc. assessment / Contract value	£4,000	£6,000	£12,000	£24,000	£50,000
Cost of administration	6%	5%	5%	4½%	4½%
Agent or foreman (each)	5%	4½%	3½%	2½%	1½%
Timekeeper or Watchman (each)	2½%	2½%	1½%	1%	½%

SPOT ITEMS AND DEMOLITION, ETC.

	Per foot run
Hoarding erected and removed	12/6
Planked gangway with handrail, etc. do.	8/–
Proper gantry, do.	60/–
Sleeper roadways	12/6
	Per foot cube
Needling, strutting and shoring including all labours and use and waste in erection and removal	15/–
Breaking up and removing hard masses of concrete or brickwork, work, etc., found in foundations	Per yard cube 50/–

ALTERATION-DEMOLITION—	Per foot super 1 Brick	1½ Brick	2 Brick	Per yard Cube
Cutting out cement concrete or brickwork in small quantities	1/–	1/8	2/6	45/–
Do. if either in very small quantities or reinforced	1/6	2/6	3/9	68/–
Debris filled into baskets and removed from inside to outside of building	3½*d.*	5½*d.*	7½*d.*	10/6

SCAFFOLDING

	Per Yard superficial Period— 1 month.	3 months.	5 months
Putlog type—4′ 6″ lift	3/4	5/2	7/–
Do. — 6′ 0″ do.	2/8	4/2	5/8
Independent type—4′ 6″ lift	4/5	7/2	9/11
Do. — 6′ 0″ do.	3/5	5/6	7/7

EXCAVATION

Per Yard Cube By hand.	Common Soil.	Loamy Soil and Clay.	Stiff Clay.	Hard Gravel.
Reduce levels	4/–	4/4	5/1	6/2
Surface trench	7/2	8/–	9/5	11/–
Barrow 25 yds.	2/2	2/10	3/3	2/2
Fill and ram	2/2	2/6	2/11	2/2
Load and cart	12/8	12/11	13/5	12/8
By machine				
Bulk dig and load	1/8	1/10	2/7	2/7
Lorry standing and 5 miles travel to tip	4/8	5/2	7/3	7/3
Extra mile to tip	6½*d.*	7½*d.*	10½*d.*	10½*d.*

CONCRETE

	Per yard cube
1½ in. Ballast Aggregate.	
1:3:6 Cement concrete in foundations	59/6
Do. around grillages	61/6

REINFORCED CONCRETE

1:2:4—¾ inch concrete, worked around reinforcement, between formwork in the following (at various levels):

Foundations and surface beds	62/6 Per cubic
Walls, 12 inches thick or more	70/6 Yard

Sectional inches	Lintols and beams	Columns and casings	Braces and projections
Up to 36	3/3	3/6	3/7 Per cubic ft.
36 to 72	3/2	3/5	3/6 do.
72 to 144	3/1	3/3	3/4 do.
over 144	2/11	3/2	3/3½ do.

Walls 6 inches thick	12/11 Per super yard
Do. 9 inches thick	18/9 do.
Suspended floors average 6 inches thick	13/6 do.

REINFORCING RODS (round) bent and placed—

Per cwt.	¼ in.	⅜ in.	½ in.	⅝ to 1 in.
In floors and beams	55/–	50/–	47/–	40/8
In walls	61/–	55/–	50/–	44/–
In columns	66/–	60/–	54/–	47/–

FORMWORK and Supports (4 times use)—

Floor soffites. 16/6 per Yard.	Beams. 2/1	Walls. 1/11	Columns. 2/1 per super foot.

BRICKWORK

BRICKWORK per YARD superficial reduced to ONE BRICK in thickness (scaffold to add)— In 1 : 3 cement mortar.

Flettons or other common backing bricks at 96/– per 1,000	28/9
Mild Stocks or do., at 203/– per 1,000	41/6
Second Stocks or do., at 228/– per 1,000	44/2
Southwater engineering or similar bricks, at 280/– per 1,000	53/–
Blue Staffordshire wire cut bricks, at 398/6 per 1,000	65/6
Deduct if 1 : 1 : 6 Cement-Lime mortar is used in lieu of 1 : 3 Portland Cement mortar	2*d.*
Add if brickwork commences above ground level	3
Do. if in backing to masonry including cutting and waste for bonding	2/6
Do. If circular-on-plan	6
Do. If in underpinning	6

BRICKWORK IN THICKNESSES NOT REDUCED—

Per yard superficial.	Brick, on edge. walls.	Half-Brick walls.	1 Brick finished fair on both sides.	11″ Hollow wall with 2″ cavity and G.I. ties.
In Flettons or similar	13/–	16/5	30/6	35/–
In second stocks or do.	18/6	24/5	46/–	51
Add: for pointing as work proceeds, per side	1/3	1/3	1/3	1/3

	Fletton	Stock	
Thicknessing to old walls, including cutting, toothing and bonding to same an average total thickness of ¾ brick	41/–	52/6	Per yard super.
Do. all as last but an average total thickness of 1½ bricks	56/–	75/6	do.

WALLS BUILT IN SUPERIOR BRICKS—

In 1 : 3 Cement mortar, fair faced and pointed on both sides as the work proceeds :—

	Half-Brick thick.	One Brick thick.	
In first quality Stocks at 238/6	27/3	49/8	Per yard
In red facings at 205/6	25/6	46/2	super.
In bluepressed facings at 442/–	40/6	74/11	do.

GENERAL AND SUNDRY—

Cut tooth and bond new brickwork to old	3/9 per ft.
Damp proof course, double slate, horizontal	2/3 super.
Do. as last, but vertical	2/10 do.
Do., bitumen, Hessian base, do.	11*d.* do.
Frames, bed and point in cement mortar, one side	4*d.* per ft. run
Window board of 6″×6″×¾″ rounded on edge quarry tiles, bedded, pointed, cut and fitted	2/6 do.

Terra cotta air bricks built in and pointed, including flue	9″×6″ 4/6	9″×9″ 7/6 each

CURRENT MEASURED RATES (*Continued*)

BRICKWORK—*Continued*

Chimney pots, plain red, set and flaunched in cement mortar	1ft. high 11/9	2ft. high 17/6 each
Metal windows, assembled, hoisted and fixed, lugs cut and pinned and frames bedded and pointed one side in cement mortar, of sizes as given	Up to 5ft. super. 8/10	5ft. to 10ft. super. 11/3 each
	10ft. to 20ft. super. 17/6	20ft. to 40ft. super. 31/– each
Leaving holes through walls for pipes and afterwards making good	Small pipes 3*d.* per in. in depth	large pipes 6*d.* per in. in depth
Cutting holes through do., for pipes and afterwards do.	8*d.* do.	1/– do. each
Cut mortices in brickwork or concrete for bolts or dowels and run in with cement grout	1/– per in. in depth each	
Holdfasts of stout hoop iron bent holed and screwed to frame and built in	1/– each	

FACING—

Extra only over common brickwork (96/– per 1,000) for facing with superior bricks in *Flemish bond* and pointing as the work proceeds.

Rustic Flettons (121/–)	2/10 per yard super.
White (136/–)	4/6 do.
First Stocks (238/6)	11/8 do.
Reds (205/6)	9/2 do.
Blue pressed (442/–)	27/7 do.

If built in English bond, *Add* 10% to above.
If do. half-brick stretcher bond, *Less* 25% off above.

COPING—

All labour and material in forming brick-on-edge coping with two courses of roofing tiles under and cement weather fillets on both sides, built in cement and pointed as the work proceeds.

Per foot run.	To wall 9" thick	To wall 14" thick
In picked Flettons	3/2	4/7
In first quality Stocks	3/11	5/8
In red facings	3/7	5/2

Plumbing angles	2*d.* per foot run
Fair cutting	9*d.* do.
Fair raking cutting	1/3 do.
Fair circular cutting	1/3 do.
Fair squint or birdsmouth	1/6 do.

ARCHES

Extra over Fletton brickwork for forming window head with red facing bricks set on end and with 4½ soffits and pointing	foot run 2/6
Do. for rubbed and gauged flat arch in red rubbers set in putty with fine joints	foot super 12/6

PARTITIONS

(over 100 Yards)	2 in.	2½ in.	3 in.
Concrete slab partitions built in cement mortar	7/6	8/6	9/8
Hollow terra-cotta do.	8/7	9/6	10/6

Per yard super—
Cutting and bonding at angles, intersections and ends .. 4*d.* foot run.

PAVING

	1in.	1½in.	1½in.
Granolithic finished trowelled gauged 5 : 2	6/9	8/2	9/7 yard super
1×5 in. skirting with square top edge and cove at bottom			1/4 foot run
Add to granolithic paving for finishing top with Carborundum			1/6 yard super
2 in. Reconstructed stone paving slabs and bedding and grouting in ash mortar			18/6 do.
Cutting and waste on last			8*d.* foot run
Cutting and fitting and make good around gulley or similar			2/– each
⅛in. pitchmastic flooring laid in one coat on a sprinkling of asphalte powder, on concrete base (measured separately)			9/6 yard super
6in.×6in. Red quarry tile paving and	do.		23/6 do.
⅛in.×6in. do. skirting			1/6 foot run
Angles in last			4*d.* each
Jointless flooring, ⅛in. thick			20/– yard super
1½in. blue paving			37/6 do.
Fireclay bricks			40/– do.
5in.×10in. Granite concrete kerb			7/6 yard run

ASPHALTE

	Mastic	Rock
¾ in. Asphalte in two layers on screeded concrete	17/3	24/2 per yard super.
Fair rounded edge	6*d.*	6*d.* per foot run
¾ in. skirting 6 in. high with chamfered top edge and angle fillet at bottom and tucking top into groove in wall	2/9	3/4 do.
Angles	9*d.*	10*d.* each
1½ in. Asphalte in three layers in horizontal tanking	23/–	34/6 per yard super.
Do. but vertical	30/3	43/6 do.
Double angle fillet	1/6	1/8 per foot run
Collars	3/–	3/6 each

DRAINAGE

Per yard run		
Excavate trench for drain and throw out, plank and strut to sides of trench as necessary and return, ram and consolidate earth after drain is laid and fill carts and remove surplus earth	1 foot in depth	3/9
	2 do.	6/3
	3 do.	12/2
	4 do.	14/4
	5 do.	20/3
	6 do.	33/6
	7 do.	39/9
	8 do.	45/9
	9 do.	52/–
	10 do.	58/4
	11 do.	78/–
	12 do.	86/–

	Per yard run 4in. wide	6in. wide	9in. wide
	18in.	20in.	23in.
Portland cement (1 : 6) concrete bed under drain pipes and benching up on both sides	5/–	5/10	7/3

Glazed stoneware drain pipes with socketted joints laid and jointed with a ring of rope yarn dipped in cement grout and a Portland cement joint (1:1)

Per foot run—	4 in.	6 in.	9 in
Best quality in 2 ton lots ex truck	2/3	3/3	5/7½
British standard do. in do.	2/5	3/6	6/1
Add to either of the above if ex wharf in lots of 100 pieces or more	2½*d.*	3½*d.*	6½*d*
Add to either of the top two items if as last but less than 100 pieces	3½*d.*	5½*d.*	9½*d*
Add to any of the above classes if tested	2½*d.*	4½*d.*	7½*d*
Extra over for bends, each	The cost of two feet of similar class pipe as above.		
Ditto Junctions, each	Ditto one-and-three-quarters feet of do.		

Stoneware gulley and jointing to drain and embedding in concrete	each 22/3	23/5	32/6
Add for horizontal inlet	do. 3/–	3/–	3/–
Do. vertical inlet	do. 4/4	4/4	4/4
Do. black iron grid	do. 1/5	2/8	5/1
Glazed stoneware interceptor with cleaning arm and stopper and building into side of chamber and connecting to drain and surrounding with concrete (+ 77½% on list)	each 46/–	58/–	90/–

IRON DRAIN PIPES—

	Per foot run 4 in.	6 in.
Heavy cast iron socketted and laying and jointing in molten lead—		
In main runs	8/2	11/11
In branches	8/8	12/6
	each	
Extra over last for bends and extra joint	22/6	39/8
Do. on do. for junctions and extra joint	35/–	59/–
Cast iron gulley with 10½ in. inlet and 4 in. outlet, composed of hopper and trap, and 9 in. extension piece and 10½ in. grating, and jointing all together, and jointing to drain and surrounding in concrete	95/–	–
Do. rain water shoe with vertical inlet and inspection cover, and joint up and embed as last	45/–	90/–

MANHOLE SUNDRIES—		4 in.	6 in.
Salt glazed straight half-round main channels	each	4/6	6/3
Do. curved	do.	9/–	13/–
Do. three-quarter section splayed channel bends (Barrons or similar)	do.	11/3	16/6
Heavy cast iron manhole steps galvanized	do.	7/9	–
Fix only manhole covers	do.	8/–	–
4in. Mica flap, brass faced, fresh-air inlet valves and fix with molten lead joint	do.	24/–	

ROOFER

ASBESTOS SHEETING AND TILING—

In roofing with side laps and 6in. horizontal lap, secured to steel purlins with necessary bolts	140/– per square
Eaves filler pieces	1/9 foot run
Adjustable ridge	3/3 do.
Barge boards	2/6 do.
Plain roofing tiles, machine made, sand faced, 4in. gauge, nailed every 4th course with 1½in. galvanized nails to battens (measured separately)	200/– per square
Extra over last for top edge or abutment cutting	1/– foot run
Do. for double course at eaves	1/4 do.
Do. for verges, undercloak and bedding and pointing	2/4 do.
Do. Valley tiles including cutting and waste on both sides	9/– do.
Do. Bonnet hips and do. and bedding and pointing	10/– do.
Half-round ridge and bed and point	2/9 do.
Fixing soakers	1/– dozen

Bituminous felt roofing in two layers, laid breaking joint and bedded with hot mastic and finished with fine dry grit	7/6 yard
Do. but in one layer only	5/4 super.

CURRENT MEASURED RATES (Continued)

ROOFER—Continued

	Per square		
WELSH SLATING—	12"×10"	18"×10"	20"×10"
3 in. lap, 2 zinc nails to each slate ..	230/-	250/-	278/-

Additional labours—	Per foot lineal		
At tops, verges and abutments—straight	1/2	1/4	1/5
Do. —raking ..	1/9	2/-	2/1
At hips and valleys (each side) ..	1/9	2/-	2/1
At eaves, double course	2/4	2/8	2/10
Do. to falls	3/6	4/-	4/3

FLOORS AND FLATS

Constructed in hollow tile in-situ or in precast units hoisted, bedded and fixed—

	Superimposed load in lbs. per foot super.	Span— 12 feet	16 feet
Per yard super.	50 ..	36/-	39/6
	100 ..	37/-	42/-
	150 ..	39/-	44/6

An allowance of 20 lbs. has been made to cover dead load in surface finishing.

Fair edge to slabs	6d. per foot run
Splay cutting and waste	1/6 do.

CARPENTER AND JOINER

Softwood at minimum control cost.

SOFTWOOD CARCASSING— per foot cube—	Plates	Joists	Rafters	Trusses
Labour, materials, waste nails, hoisting and fixing ..	17/6	18/-	19/-	22/-

FLOORING— Per square—	¾ in.	1 in.	1¼ in.
Rough boarding	119/-	152/-	191/-
Softwood batten flooring, straight joints, splayed headings	121/-	154/-	194/-
Do. grooved and tongued	145/-	181/-	224/-

SKIRTING— Per foot superficial—	½ in.	¾ in.	1 in.
Wrot softwood moulded skirting including grounds and backings plugged, ..	3/-	3/7	4/-
Mitres to do. .. 1½d. per sectional inch.			
Fitted ends .. 1d. do.			

SASHES, Fanlights, casements, borrowed lights, etc.—

Per foot super—	Without bars	With bars (2ft. sup. in each square)
2 in. softwood rebated, moulded and fixed	2/2	3/6
Add if fitted with beads	6d.	1/6
Add if hanging on butts .. 2/- each		

WINDOWS, hung on lines—

Softwood cased frames, 1in. inner and outer linings, 1½in. pulley stiles, 2in. sashes, oak sill.

Per foot super.	Overall size of frames— 6ft.	21ft.	32ft.	44ft.
Window as described	12/3	6/2	5/-	4/-
Add if sashes in squares, about 2 feet super in each	-	1/-	1/4	1/3
Extra for hanging sashes with lines, weights and axle pulleys	——— each ——— 25/-	35/-	41/-	53/-

Per foot run—	Sectional area— 4 in.	6 in.	8 in.	10 in.	12 in.
Softwood, wrot, framed, rebated, rounded and fixed	1/3	1/7½	1/11	2/2½	2/6

FINISHINGS TO OPENINGS— Per foot super—	¾ in.	1 in.	1½ in.	1¾ in.
Softwood linings, tongued at angles and tongued to frame including grounds and backings	2/8	3/1	3/7	4/1
Add if crosstongued	6d.	6d.	6d.	6d.
Softwood wrot rounded on front edge and with tongue at back window board including groove in sill and bearers ..	2/8	3/2	3/8	4/2
Add for ends to last notched, returned and rounded	10d.	10½d.	11d.	1/-

Per foot run—	Sectional area in inches— 1	2	3	4	5	6
Softwood wrot and fixed in bearers, backings, grounds, fillets, and similar ..	3½d.	6d.	8d.	10d.	1/-	1/2½
Add if in short lengths ..	1d.	1d.	1½d.	1½d.	1½d.	1½d.
" if plugged to brickwork	3d.	3d.	3d.	3d.	3d.	3d.
" if framed as in legs and bearers	1½d.	1d.	1½d.	1½d.	2d.	2d.
" if rebated or grooved or beaded	½d.	½d.	½d.	½d.	½d.	½d.
" if chamfered or rounded edges			1½d.			
" if moulded in architraves, capping, etc.			3d.			

DOOR FRAMES— Per foot run—	6in	8in.	10in.	12in.	13½in.
Per sectional inch— Softwood, wrot, rebated, rounded framed and fixed .. .	1/7	1/10	2/2	2/6	2/9

DOORS— Per foot super.	Number of panels— 1	2	3	4	5	6
2 in. Softwood, square framed and flat panels, both sides, hung on butts	4/6	5/3	5/7	6/-	6/3	6/9
1½ in. do.	4/-	4/9	5/3	5/6	5/9	6/3
Add for each side moulded	3d.	4d.	5d.	6d.	7d.	7d.
Add for do. flush panelled	6½d.	6½d.	6½d.	5d.	6d.	6d.

	Per foot super— ¾ in.	1 in.	1¼ in.	1½ in.
In shelves, table tops, wrot and fixed ..	2/-	2/4	2/9	3/3
Do. in divisions and ends framed ..	2/3	2/7	3/1	3/6
Add if crosstongued	6d.	6d.	6d.	6d.
Add if buttoned	6d.	6d.	6d.	6d.

SUNDRIES— Per foot run	In short lengths	In long lengths	Add for cups & screws
Glazing beads, mitred around and fixed with brads	6d.	4d.	1d
Rounded heel or hollow ..		4d.	
Tongued and grooved angle ..		6d.	
Glue blocking		6d.	
Mitres	1½d. per sectional inch		
Fitted ends	1d. do.		

STAIRCASE—	Per ft. super
1¼ in. Softwood treads with moulded nosings, 1 in. risers tongued both edges and glued, blocked and bracketted on and including two fir framed carriages	4/6
Do. but in winders	5/4
1¼ in. crosstongued landing in framed carriages	4/8
2 in. moulded string	4/2
2 in. do. ramped	8/4
Ends framed to newel	6/8 each
Tongued and mitred angles	3/6 do.
Tongued heading joints	3/6 do.
Ends of treads and risers housed to string	2/- do.
Extra for curtail ends to steps, glued up and veneered riser and solid blocking	70/- do

	1in.	1¼in.	1½in.
Balusters about 2 ft. 9 ins. long, square and framed each end .. .. .. each	2/7	2/11	3/4
3½ in. × 3½ in. square newel, framed	3/- per foot run		
Mahogany moulded handrail (3in. × 2½in.) ..	6/- do.		
Do. ramped	11/- do.		
Do. wreathed	20/- do.		
Ends framed to newels	5/- each		
Joints and handrail screws	7/- each		

FIXING ONLY IRONMONGERY—	To deal	To hardwood
Barrel bolts	1/4	1/10 each
Flush bolts	3/-	3/8 do.
Sash fasteners	1/8	2/2 do.
Rim locks and furniture	4/2	5/2 do.
Mortice locks and do.	8/4	12/6 do.
Cupboard locks	2/1	2/7 do.
Casement fasteners	1/8	2/2 do.
Do. stays	1/8	2/2 do
Grip handles	2/-	2/6 do
Spring catches	1/8	2/2 do
Cabin hooks	1/4	1/8 do
Floor springs including oil	39/-	48/- do.
Overhead springs	10/-	12/- do.
Springhinges	8/6	10/- do.

SMITH AND FOUNDER

Basis framed steel joists and hoist and fix	51/- per cwt.
Do. but in compound girders	54/6 do.
Do. but in stanchions	62/6 do.
Trusses	71/- do.

Additional cost per cwt. over basic sections for rolled steel joists of the following sections:—

9in. × 7in. .. 3½d. per cwt. 6in. × 3in.	4½d. per cwt.
5in. × 3in., 10in. × 8in., 12in. × 8in., 14in. × 8in., 16in. × 8in., 18in. × 6in., 18in. × 7in., 20in. × 6½in., 20in. × 7½in.	6½d. do.
5in. × 2½in., 22in. × 7in.	10d. do.
4in. × 3in., 24in. × 7½in.	1/1½ do.
3in. × 3in. .. 1/4½ per cwt. 4½in. × 1½in. .	2/9 do.
3in. × 1½in.	3/10½ do.
Bolts and nuts, fitted	97/- do.
Forged straps	86/- do.
Wrot iron balustrade	108/- do.

RAINWATER GOODS—

Round cast-iron pipe with socketted joints caulked with red lead and tow and fixing with pipe nails and gas barrel distance pieces to plugs in brickwork	Per foot lineal 2 in. 2/9½	3 in. 3/5	4 in. 4/4
Extra for shoes	4/-	4/9	6/-
Do junctions	5/5	7/-	9/-
Do. bends	4/3	5/4	6/9

CURRENT MEASURED RATES *(Continued)*

RAINWATER GUTTERS

	Per foot run— 4 in.	5 in.	6 in.
Half round cast-iron eaves gutters jointed in red lead and bolted and fixed on iron brackets	2/6	3/2	4/3
Ogee do. All as last	2/11	3/7	4/5
Extra for stop ends..	2/4	2/7	2/11
Do. angles or outlets	4/6	5/7	6/8

PLUMBER

EXTERNAL—		Soakers	Flats	Flashings
Milled lead 4 lb. and over. per Cwt.		193/6	220/–	230/–
Welt. Lead wedge.		Copper nail.	Bossed ends to rolls.	
1/– ft. run. 9*d.* ft. run.		6*d.* ft. run.	2/– each	

Per foot run.		½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Lead main ..	fixed	5/8	8/–	10/11	14/–	18/–	24/10
Lead service	with	5/2	6/10	8/11	11/5	14/4	19/7
Lead waste	tacks	3/4	4/6	5/8	8/6	9/11	11/5
Bends	each	–	–	–	1/9	3/–	7/9
Solder joints ..	do.	7/5	9/–	10/9	12/8	15/3	20/3
Union and joints ..	do.	11/3	14/–	17/10	21/–	28/–	43/–
Stop valves and do.	do.	25/2	33/8	51/6	69/3	100/6	181/–
Bib tap and joint do.		9/9	14/8	–	–	–	–
Ball valve end do.	do.	29/6	38/–	51/–	81/–	118/–	188/–
Ferrule and joints	do.	–	–	–	–	22/–	30/–

COPPER TUBES (B.S.659) fixed with brass screw on brackets—

	½ in.	¾ in.	1 in.	1½ in.	1¾ in.	2 in.
Tubes (per ft. run) ..	2/1	2/7	3/6	4/–	4/8	6/11
Couplings straight ..	2/10	3/8	5/7	7/4	9/7	13/5
Do. bends .. each	6/–	7/4	10/8	14/6	22/4	31/1
Do. tees .. .. do.	6/7	7/9	12/2	16/5	22/8	32/6
Do. cistern .. do.	4/–	5/5	7/1	9/1	12/10	17/3
Stop cock .. do.	18/–	26/2	42/7	73/–	114/9	178/6

BLACK TUBING fixed with pipe brackets	¼in. 1/1	⅜in. 1/3	1in. 1/6	1¼in. 1/10	1½in. 2/2	2in. 2/8
Bends and fitting, screwing, cutting and jointing ..	2/5	2/10	3/9	4/9	5/10	8/1
Tees and do.	2/9	3/3	4/–	4/8	5/9	8/–
Union connectors and do.	4/–	4/10	6/6	7/9	9/4	12/–
Forming single set in tube..	1/–	1/1	1/2	1/6	2/–	3/6

(each)

Add if tubing is galvanised, 30%. Do. for short lengths of tube, 40%

Coated iron L.C.C. weight soil pipe and fixing with pipe nails and distance pieces to wall and joints caulked with molten lead (M)	2 in. 3/11	4in 5/9 foot run
Extra only for bends and joint	9/–	14/– each
Do. junctions and joint	10/3	17/6 do.
Do. cleaning doors	9/9	10/6 do.
Domical wire guards	2/3	2/4 do.

PLASTERER—		Yards super. Wall.	Floor.	Narrow widths.	Sundries feet lineal.
Lime and hair	¾" Render and set ..	4/9	–	Increase in cost	Quirk 2*d.*
Do.	¾" Render float and set	6/–	–	up to 3" wide	Arris 3*d.*
Sirapite	¼" Skimming coat ..	3/–	–	75%	Fair edge 2*d.*
Do.	¾" Render and set ..	5/8	–	Do. 3" to 6"	Rounded edge 4*d.*
Do.	¾" Render float and set	7/3	–	60%	Flush
Portland	½" Backing coat ..	3/9	–	Do. 6" to 12"	bead 1/3
Do.	¾" Plain face	6/3	–	40%	Mouldings per inch 4*d.*
Do.	½" Screed	3/9	3/1	–	Metres=1 ft.
Do.	¾" Screed	4/8	4/–		Jointing new to old plastering 3*d.*
Keenes	¼" Skimming coat ..	4/–	–		

Plaster board and scrim .. .. 5/– –
Metal lathing ¾"×24 gauge.. .. 3/3 –
Dubbing up to ¾" thick .. .. 1/– –
¼"×6"×6" White or cream glazed wall tiling and setting on prepared screed .. .. 35/- yard super.
Rounded edge to do. 3½*d.* foot run; angles for same 3½*d.* each.
Cutting and fitting tiles around pipes, clips, etc. 9*d.* each.

POLISHING

NEW WORK—	Foot super	Foot run
Staining, bodying-in and French Polishing ..	2/3	
Do. on sashwork	–	1/6
Staining and wax polishing on hardwood ..	1/–	–
Do. on sashwork	–	8*d.*
OLD WORK—		
Cleaning down old work and repolishing ..	10*d.*	–
Stripping, preparing and repolishing.. ..	2/6	–
Do. on sashwork	–	1/8

INTERNAL PAINTING

With white lead base in common colours, with brushes.

	Knot stop and prime	Prime and paint once	Prime and paint twice	Add for each extra coat
ON WOOD—				
General surfaces ..	2/4	4/5	6/1	1/7 Per Yard super.
Running lengths not exceeding 3" wide	3½*d.*	6½*d.*	9*d.*	2½*d.* Yard run
Do. 3" to 6" wide ..	5*d.*	9½*d.*	1/–	3½*d.* do.
Do. 6" to 9" wide ..	7½*d.*	1/1½*d.*	1/7	5*d.* Do.
Do. 9" to 12" wide	10½*d.*	1/6	2/–	6½*d.* do.
Sash square each side	4/11	8/5	11/4	2/11 per dozen
Do. in large squares	7/1	12/–	16/2	3/10 do.
Opening edges ..	7*d.*	1/2	1/9	7*d.* each
Casement frames each side	4½*d.*	8½*d.*	1/-	3*d.* Yard run
Mullions or transomes, do. ..	6½*d.*	11½*d.*	1/3	4½*d.* do.
ON PLASTER—		One coat	Two coats	Three coats
Paint on surfaces		2/2½	4/2	5/9 Per Yd sup.
Do. on mouldings ..		2/6	4/11	6/8 do.
Do. on enrichment ..		4/4	8/3	10/5 do.
ON STEEL—				
Paint on structural steel ..		1/11	3/7	5/– do.
Do. on members of roof trusses		3/1	6/–	8/4 do.
Do. on metal windows measured over all on both sides, divided into squares ..		3/–	5/2	7/3 do.
Do. divided into large squares		2/7	4/5	5/9 do.
Do. divided into extra large squares		2/1	3/8	4/11 do.
Do. on opening edges ..		9½*d.*	1/5½*d.*	1/11 each
Do. on rain water pipe ..		7*d.*	1/3	1/8 Yard run
Do. on do. gutter ..		1/–	2/1	2/10 do.
Do on small pipe ..		2½*d.*	5½*d.*	8*d.* do.

GLAZING (To New Work)

Polished Plate Glass, ordinary substance (about ⅛in.), glazing quality, in the following sizes, glazed complete, in quantities exceeding 100 feet superficial— Per foot super

In plates not exceeding	2 feet super	in each	3/8
Do.	3 feet	do.	4/–
Do.	5 feet	do.	4/2
Do.	45 feet	do.	4/9
Do.	100 feet	do.	5/5

Add extra price for glazing with screw beads or clips 3*d.* per foot super
Do. if glazing bedded in washleather or velvet .. 6*d.* per foot run.

SHEET GLASS glazed complete (100 feet super or more). foot super in new work—	24 oz.	26 oz.	32 oz.
Ordinary glazing quality (average) ..	1/4½	1/6	1/8½
Sundry glass and glazing all as last described to wood—			
⅛ in. Hammered			
Double cathedral rolled			
Rimpled			
Waterwite	1/6 per foot super		
⅛ in. Arctic			
Majestic			
Flemish			
Pinhead Morocco			
Prismatic	2/2	do.	
⅛ in. roughcast	1/7	do.	
⅛ in. wired do.	1/9	do.	
⅛ in. Georgian wired do.	1/9½	do.	
Wired Arctic	2/8½	do.	
Add for metal casements or frames glazed with screw beads	2½*d.*	do.	
Extra for do. with quick drying-putty ..	1½*d.*	do.	
Copper clips .. 4*d.* each.	Lead or zinc clips ..	3*d.* each	

PAINTER AND DECORATOR

DISTEMPERING—In common colours, put on with brushes—

ON PREPARED SURFACE. per yard super—	1 coat (finish)	2 coats (undercoat and finish)	*Add* if required for Sealing coat	Stippling
Ordinary distemper on flat surface of plaster	6½*d.*	1/–	5*d.*	2*d.*
Washable do. on do. of plaster	9½*d.*	1/4½	5*d.*	2*d.*
Add if in margins, narrow widths or panels	30%	30%	20%	50%
Add if on mouldings	50%	50%	45%	–
Add if on enrichments	160%	160%	115%	–

PAPERHANGING

Hanging only—	Per piece— Lining	Pattern
On walls	3/9	4/4
On Stairs	5/3	6/6
On ceilings	5/–	5/7

News of the BUILDING INDUSTRY

INTEREST

THE LONDON MASTER BUILDERS' ASSOCIATION, acting on behalf of the Regional Advisory Council for Higher Technological Education has set up a Committee with the object of considering from year to year the demand by students for foremanship courses in the London Region and of resolving difficulties which may arise from time to time. The Committee, which is to be known as the London Regional Foremanship Training Liaison Committee, consists of representatives of the L.M.B.A., the Regional Advisory Council, the Association of Principals of Technical Institutes and the three London Foremen's Organisations. The Committee has proposed the following arrangements for the Academic Session 1951-2.

Three types of course will be available as follows:

(1) A Course for Building General Foremen in accordance with the recommendations of the N.F.B.T.E. Standing Committee on the Training of Foremen.

(2) A Course designed as an introduction to the above mentioned N.F.B.T.E. Course.

(3) A Course in supervision for Supervisors engaged mainly on relatively small undertakings and maintenance work.

The courses will generally begin in September, 1951, and application for admission should be made in the first instance to the Secretary, London Regional Foremanship Training and Liaison Committee, 47 Bedford Square, W.C.1, so as to be received not later than Monday, May 21, 1951. Application forms are obtainable from the Secretary of the Liaison Committee.

*

THE DEFENCE PROGRAMME has naturally raised once again the question of working overtime and there are signs that past experience may be forgotten in dealing with urgent jobs for that programme, said Mr. Stephen Hudson, president of the N.F.B.T.E. at a meeting of the Council of the L.M.B.A. on April 19. Mr. Hudson warned the Government that one of the lessons learned during the last war was that the working of long hours on building contracts would result not in the speedier completion of contracts, but in disorganisation and very high costs. For instance, Sunday work paid for at double time during the war was detrimental to sustained effort and in many cases merely led to increased absenteeism during the week.

"I hope, therefore," said the President, "that the Government will make it clear to those who will be placing and supervising contracts on its behalf, that proposals to work overtime should be made only after very careful consideration of all the circumstances, and that only in cases of real emergency should working at week-ends be countenanced. The aim should be to raise and maintain output during normal working hours."

Mr. Hudson's own view is that on priority jobs there can be no serious objection to the working of an extra hour a day from Monday to Friday during the summer months.

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AN IRON AND STEEL PRODUCTIVITY TEAM, covering Pig Iron and Heavy Steel, will be sailing on May 17 for a six weeks' visit to the United States under the auspices of the Anglo-American Council on Productivity, with E.C.A. technical assistance.

The team will study and report on the organisation and methods of the U.S. iron and steel industry. It will also consider the factors bearing on the comparative productivity of the U.K. and U.S. industries, and recommend whether and by what methods U.S. experience can with benefit be applied or adapted in this country.

THORN ELECTRICAL INDUSTRIES announce that the normal efficient life of Atlas fluorescent lamps has been raised to 5,000 hours. These lamps will in future be marketed under the name of Atlas "Double-Life" at the normal list prices.

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FOREMANSHIP TRAINING IN TECHNICAL COLLEGES is the subject of a report made by a sub-committee of the British Institute of Management, the results of which are now published with the approval of the Ministry of Education.

The report shows up the deficiencies and suggests practical ways in which Technical Colleges may give immediate help. These recommendations are based on comprehensive evidence of the needs of industry and a study of current methods of meeting them. The problems of the smaller firms—the bulk of British industry—who are dependent on external courses, were the primary concern of the committee. The report proposes short term programmes designed to appeal to the established foreman, recognizing of course that these are no substitute for progressive long-term training within industry and outside.

Copies of the report may be had from the British Institute of Management, 8 Hill Street, London, W.1. (price 2s. 6d. post free.)

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THE MINISTER OF LOCAL GOVERNMENT AND PLANNING has appointed a Departmental Committee to consider the effects of heated and other effluents and discharges on the condition of the tidal reaches of the River Thames, both as at present and as regards any proposed new developments in the area.

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THE L.C.C.'s Chief Engineer and the Divisional Engineer, bridges and works division, are to visit the U.S.A. to inspect two tunnels which are being constructed by methods which have not yet been used in this country.

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THE HEAD OF THE BUILDING DEPARTMENT OF TECHNOLOGY—Mr. Edmund George Warland—has retired after seventeen years' service. The building department has now been renamed the City College of Building—an independent unit under the new principal, Mr. Thomas E. Hall.

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THE MINISTER OF SUPPLY (Mr. George R. Strauss) has made a new Order increasing the controlled maximum delivered prices of iron and steel scrap from April 21.

The Order, which reflects the recent increases in transport costs, is the Iron and Steel Scrap (No. 2) Order, 1951, Statutory Instrument 1951, No. 678.

Increases vary according to district and specifications from 2s. 11d. to 5s. 11d. per ton.

Copies of the Order may be obtained from H.M. Stationery Office, Kingsway, W.C.2, or through any bookseller.

STUD WELDING

In the recent series of articles on Welding reference was made to stud welding. The system described and the illustrations used were of the Nelson stud welding system. Acknowledgement is due to Crompton Parkinson Ltd., who market the gun and from whom the information was largely obtained.

THE BUILDING, CIVIL ENGINEERING AND PUBLIC WORKS COMMITTEE of the International Labour Organisation held its Third Session in Geneva from February 12 to 23, 1951. The United Kingdom was represented by two Government delegates (Mr. G. R. A. Buckland, Ministry of Labour and National Service and Mr. K. Newis, Ministry of Works), two Employers' delegates (Mr. N. Longley and Mr. R. Kean, O.B.E.) and two Workers' delegates (Sir Luke Fawcett, O.B.E. and Sir Richard Coppock).

The agenda of the session included seasonal unemployment in the construction industry, and workers' welfare in the construction industry, and two sub-committees dealt with these items.

The sub-committee on seasonal unemployment adopted a statement of policy laying down as two indispensable conditions for the most effective reduction of seasonal unemployment: (a) the maintenance of full employment in a country's economy as a whole; (b) the further development of co-operation between Governments, employers and workers in the application of proved techniques of winter construction and in the adoption of other appropriate measures; and a willingness to depart where necessary from traditional habits in planning and organising work. It was accepted that no measures should have the effect of lowering existing working standards.

The resolution of the sub-committee on welfare suggests for the consideration of those concerned the provision of weatherproof shelter during interruptions of work; suitable weatherproof places and facilities for meals; supplies of wholesome drinking water; facilities for obtaining food or cooked meals under hygienic conditions; washing and sanitary facilities; provision for storage drying and changing of clothing; transport facilities; residential accommodation.

*

THE ROAD HAULAGE ASSOCIATION, National Rates Committee, have recommended as a result of the Budget, that members of the Association increase their general haulage rates by 2½ per cent. as from May 1, 1951.

*

THE BOARD OF TRADE announce that authority has been given to import a limited quantity of hardwoods (including Balsa wood) from thirteen Central and South American countries.

Applications for Import Licences should be based in firm offers from shippers in the countries referred to.

*

FROM MAY 1, the amount of nickel supplied for stainless steel production will be cut to 70 per cent. of the 1950 level, and supplies of nickel anodes for plating will be cut to 50 per cent. of the 1950 level. These cuts will be followed by the prohibition of less essential uses of nickel.

Supplies of molybdenum—entirely dependent on the United States—are far below the 1950 level, and there is a sharply increased demand for the defence programme. If the rearmament demand has to be met in full from the current rate of supplies, there will be hardly anything left for civil production. Supplies of tungsten are also precarious.

Technical committees of the iron and steel industry have been set up to examine urgently what economies can be made in the use of nickel, molybdenum and tungsten in modification of alloy steel specifications. These facts were stated by the Minister of Supply in the House of Commons on April 20.

GOOD, BAD OR INDIFFERENT?

No. 33—By A. FOREMAN

Fixing two boilers

I have recently had reason to watch the fixing in each of two very similar houses, not far apart, of similar replacement boilers by two different firms. It is really hard to believe that so much difference in time, mess, damage and general efficiency could be achieved. The boilers were moderate sized domestic cased-in sectional boilers.

Firm No. 1, represented by two fixers, arrived at the job at 10 o'clock with their small lorry equipped with all that was necessary in the way of tools, spare tubing, work bench spare bends, flue pipes, etc. and the boiler to be installed. The fitter first entered the building and put down *clean* dust sheets to cover the entrance passage and the kitchen floor from the back door to the boiler position and a large surrounding area. A length of hose was then produced and connected to the drain cock to remove the water left in the system and convey it to an outside gulley, without any mess on the floor. A tool carrier was then brought in containing an adequate set of tools likely to be needed; these were clean and all in good working condition. The service pipes were then disconnected and the boiler was dismantled piece by piece and removed to the lorry. The old smoke pipe, being of a different colour from that of the new boiler, was carefully cut out with no damage whatever to the surrounding quarry tiles through which it passed. The new boiler, its casing, etc. was then unpacked and the packing material replaced in the case and the latter restored to the lorry leaving no litter in the back yard. The boiler was brought in, assembled, the services connected, including some slight changes to the main flow pipe to introduce a safety valve, the smoke box, bend and smoke pipe connected up, jointed and made good where it entered the brick flue. The fire was lighted at 4 o'clock after which the fixers waited to see that the system was in full working order, air removed from the radiators, towel rails, etc. After being satisfied that all was well and having cleared up, carefully checking over and packing their tools, they applied a coat of metallic paint to the pipes which had been marked in the operations and they left at 5 o'clock. The room decorations, including a light coloured painted cupboard and pale coloured distemper walls, were unmarked and the floor clean when the dust sheets were removed except for traces of the fixers wiping up round the hearth on which the boiler stands. At 5.30 the boss 'phoned to ask if all was well and that the place had been left clean and tidy.

Firm No. 2 was a perfect contrast. The fixers arrived about 8.30, followed about half-an-hour later by a lorry with the boiler, but until the lorry arrived no work was done. The drain cock was then opened to fill a small tin which was emptied into a bucket, not always very successfully so that a large part of the kitchen floor was rapidly under water which was, of course, far from clean. Tools were then produced from an extremely disorderly bag and disconnection of services commenced; within two minutes very considerable damage had been done to the woodwork (a cupboard) adjoining and to the quarry tiles at the back of the boiler. It was then found that the water had not been properly turned off and the drain cock was continuing to trickle water, which was spread and trampled over most of the room. At 2.30, after two tea breaks and a dinner interval, all was dismantled, partly by considerable application of a heavy hammer, with the result that where the smoke pipe entered the flue the tiles were broken and the plaster above falling off. The new boiler was then unpacked and assembly commenced, only to find the smoke pipe was the wrong colour (grey instead of cream) and the obtuse bend undelivered. At 4.15 both men retired to fetch the missing bend, leaving the kitchen almost unusable and the housewife in tears at the sight of the battlefield, and were not seen again until 8.30 a.m. on the next day. By 2.30 on the second day the installation was complete and the men left. No making good of damage had been done, no cleaning up, the decorations were covered with dirty finger marks, paint and plaster chipped, the lino wet and scored by the boiler or tools and the old boiler pieces and the packing of the new one littered the back yard. The fire had not been lighted nor the water turned on and when it was the men had to come back to tighten a leaking pipe joint.

Why should there be these differences? In my mind simply because Firm No. 1 knows its job, organizes properly, and sees that it has proper operatives who know their job and work efficiently. The service given to the client is appreciated and produces a good reputation. The costs to Firm No. 1 will be no more as by the time the client of Firm No. 2 has had the damage and decorations put right (at the expense of Firm No. 2 and not at his own expense) the total cost will far exceed the charges of Firm No. 1 but above all the client of Firm No. 2 will remain dissatisfied. Efficiency and organization down to such small matters as the cleanliness of dust sheets and tools pays.

ELECTRIC WATER HEATING

No. 3.—FLATS

By J. Mortimer Hawkins

There are two types of water heaters which are most popular for use in flats where electricity is the heating medium.

Both are self-contained storage heaters which will give a continuous and automatic supply of hot water. One type is fed from a separate cold water ball valve tank, whilst the other incorporates a small feed tank in the heater itself.

A 20 gallon size water heater is the most popular size for an average household, and the dual purpose heater previously described, is suitable for supplying all hot water required in flats.

The advantages of a separate hot water system for each flat as against a centrally heated installation will be obvious.

The heater should stand on the floor underneath the draining board by the kitchen sink, and be fed from a cold water ball valve tank. A separate cold feed tank in each flat is preferable to using a common tank for several flats.

With either method a feed pipe to the heater and a vent pipe back to the feed tank has to be fitted. Thus, if there is a tank at the top of a block of four-storey flats feeding heaters in each flat, vent pipes from the ground floor have to be run the whole height of the building. Such long vent pipes are not conducive to an efficient installation, and increase running and installation costs.

Suitable water connections for flat plumbing are shown in Fig. 5 (*overleaf*).

When the height of the rooms in the flats is 9 ft. and a cold tank is fitted, it is only possible to provide a small head of water at the hot taps. To give as large a flow as possible, resistance to the flow of hot water can be minimized by using smooth bore copper piping and smooth bore unions. Sharp or acute bends in pipes should be avoided.

Two examples of actual running costs taken from 20 gallon dual purpose installations in flats are as follows:—

No. of persons in flats	2 Adults 3 Children	2 Adults 2 Children
Test period in days	204	199
Gallons of water used	9467	4570
Units of electricity consumed	2115	1609
Unit charge	½d.	½d.
Average gallons used per day	46.45	22.96
Average units used per day	10.37	8.09
Average cost per day	5.2d.	4.04d.

(*continued on next page*)

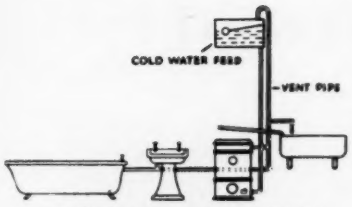


Fig. 5. Plumbing arrangements for floor-type heater in flat.

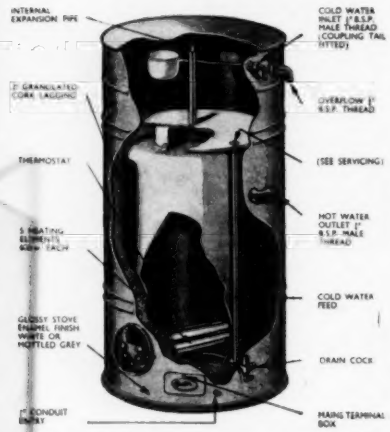


Fig. 6. Cylindrical cistern type water heater showing typical construction

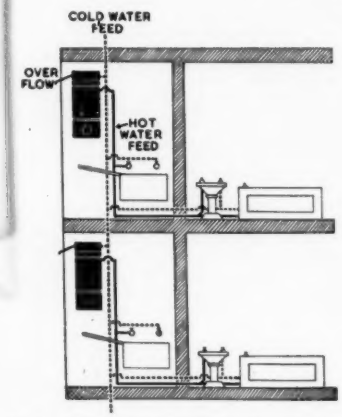


Fig. 7. Plumbing arrangements for cistern type water heaters in flats

An alternative water heater, suitable for flats, incorporates a small cold water feed tank. This heater can therefore be fed direct from the cold water mains.

These heaters are made in both rectangular and cylindrical forms. The former is compact but is of more expensive construction.

Usually designed for mounting on the wall (as the hot water is gravity fed to the taps), this type of heater should therefore be fitted as high as possible above the hot tap level. The pipe connections are simple. Two unions are provided on the ball valve tank, one to take the cold water mains, and the other for an overflow pipe. There is a union at the bottom of the heater from which a pipe is run to the necessary hot water taps. A vent pipe is incorporated in the heater itself. All these heaters have efficient thermal insulation and are thermostatically controlled.

Fig. 6 shows a typical design in which everything possible is done to conserve all generated heat.

Fig. 7 shows a plumbing arrangement with a minimum of pipework.

In soft water districts thermostats for any of the electric water heating installations previously described can be set at any temperature up to 190°F: the hotter the water the greater storage of water at usable temperatures.

In hard water districts, however, thermostats should not be set above 160°F as scale formation with all the attendant troubles is accelerated at higher temperatures. The lower the temperature the better, when the water is hard. If this is borne in mind, electric water heaters properly installed should give many years of trouble-free performance. *(To be continued)*

PLASTERING

No. 2.—By H. Andrews, B.Sc., A.R.I.C.

Materials

THE plasterer's chief materials are lime, gypsum and anhydrite plasters, portland cement and sand.

Lime

Limes of many types, with considerable variation in properties, are produced in this country but only two of them are widely used for plastering mixes. Both are calcium limes, i.e., they contain little or no magnesia, and are not sharply differentiated but tend rather to verge one into the other. These limes are referred to as non-hydraulic and semi-hydraulic and are produced by burning natural limestones or chalks. Some of them contain varying but comparatively small proportions of hydraulic constituents produced during burning by interaction with the clay content of the raw material. These hydraulic compounds enable the material to develop some, but not much, strength under damp conditions. Lime for plastering used always to be prepared on the site by the plasterer from lump quicklime which was run to a putty with excess of water and allowed to mature for weeks, months or even years before use. The most marked change in the use of lime has been the introduction, at the beginning of the century, of hydrated lime sold in bags as a fine powder. This material is produced in specially designed plant by reacting ground quicklime with just enough water to satisfy its chemical requirements. In this way a perfectly sound material can be prepared which may be immediately incorporated in a plastering mix without risk of "blowing". It is thus much more convenient to use than quicklime but it is well-known that its working qualities are much inferior to those of a lime putty prepared from the same quicklime with excess of water. The working qualities of hydrated lime may be somewhat improved by soaking it, either with or without sand, before use. This is the recommended method of use.

Calcium Sulphate Plasters

Gypsum and anhydrite plasters or as they are sometimes referred to, calcium sulphate plasters are prepared either by heating gypsum or by processing anhydrite, both naturally occurring rocks.

When finely ground gypsum is heated to a moderate temperature, 150°C to 170°C, a proportion of its combined water is driven off and a material remains known as calcium sulphate hemihydrate or, more commonly, as plaster of Paris. This plaster when mixed to a paste with water sets hard very quickly and is not much used for plastering on this account. It is however, widely used in the production of decorative mouldings, gypsum blocks and in the manufacture of gypsum plasterboard.

Plaster of Paris forms the basis of many proprietary plasters known as retarded hemihydrate gypsum-plasters sold under various brand names. These are prepared by incorporating a very small proportion of a colloidal material known as a retarder. Such addition delays the setting of the plaster and gives adequate time for the plasterer to prepare, apply and finish the mix. The amount of retardation varies with the use to which the plaster is to be put and is, for example, greater for an undercoat plaster than for a finishing coat plaster. It should be noted here that although the start of the setting process is delayed it takes place quite quickly once it has started.

If gypsum is heated to a temperature considerably higher than that needed to produce plaster of Paris the whole of the combined water is driven off and the substance remaining is known as anhydrous calcium sulphate. This material is comparatively unreactive towards water and sets too slowly to act as a satisfactory plastering material. Plasters may, however, be prepared from it by grinding into it small proportions of inorganic salts such as potassium sulphate or potash alum. Such additions are called accelerators.

The resulting plasters are known as anhydrous gypsum-plasters or Keenes and are also sold under proprietary brand names. Only one plaster prepared from anhydrite is available in this country and it may be regarded as one of this group.

Plasters based on anhydrous calcium sulphate show far wider differences in properties than those based on plaster of Paris. The method of calcining, the temperature reached, the type and amount of accelerator used are factors, which affect their properties in addition to variations in the natural rock. All the plasters, however differ basically from those based on plaster of Paris in their mode of set. They start to set as soon as water is added and the hardening takes place fairly slowly and continuously over a long, though very variable, period.

The practical results of this difference in behaviour are important. Plasters based on plaster of Paris harden over a comparatively short period although their set may be delayed by a retarder and, when used as a finishing coat, do not give the plasterer a lot of time to bring them to a true surface. Those based on anhydrous calcium sulphate,

having a more gradual set, are more easily brought to a true and smooth finish. Again those based on plaster of Paris need little or no damp storage after hardening to ensure complete reaction with water. Whereas those prepared from anhydrous calcium sulphate do require damp storage—as much as 48 hours would be needed for some brands—to ensure adequate reaction.

It must be remembered that all plasters, whether manufactured from gypsum or anhydrite, revert on setting and hardening to gypsum and if sufficient plaster remains unconverted owing to premature drying then defects may develop later.

Sand

Sand is used in most plaster undercoats but sufficient attention is not always paid to its suitability. It is a comparatively cheap material; it is uneconomic to transport it anything but short distances and its quality may vary widely from one area to another. In some districts plastering defects of a particular type tend to be common and would appear to be related to some extent to the poor quality of the local sand. Cases of intermittent dampness sometimes arise which are traceable to the presence of sea salts in the sand used for plastering. The unsatisfactory hardening of gypsum plaster mixes and the excessive shrinkage cracking of cement plasters may be results of the use of dirty sands.

(*To be continued*)

OFFICE BOOKSHELF

Concrete Design

"The Design of Prismatic Structures," by A. J. Ashdown (Concrete Publications, Ltd., London, price 8s.) is a small but comprehensive publication on a new method of designing reinforced concrete slabs for pitched roofs and other angular formations. It is claimed that this type of construction is economical and has advantages compared with the now popular thin curved "shell" roofs; the calculations, now that a basis for formulae has been evolved, are more simple and the shuttering much more simple as only flat surfaces are involved and, in fact, these might be partly pre-cast. It is said that few structures have so far been erected designed on this theory but it is suggested that it is suitable for a wide series of applications; diagrams show how the theory may be applied to any shapes built-up of a series of flat planes at an angle to one another such as ordinary pitched roofs, bottoms of bunkers, etc. The contents of the book set out clearly the methods of application and calculation; these are divided into four chapters devoted to prismatic structures of one span, multiple-bay structures, continuous prismatic structures and prismatic structures with sloping ends. Many examples, which are fully worked out, are given. The theory appears to be a very interesting development and well worth very careful study; sufficient information is given to make such an examination possible by any competent concrete engineer.

Metal Finishing

The polishing of metals is a matter in which the building industry is very interested but one of which there is only limited knowledge outside the manufacturers of the supplies used in the industry. "Industrial Polishing of Metals," by Gerald F. Weill (Iliffe, London, price 21s.) gives much and detailed information regarding the many methods used, their various applications, the materials and the plant involved.

Those in the metal using industries will find it to be a really comprehensive treatise on the whole subject in its broadest aspects. Until recent years, and perhaps even now, polishing has not and does not receive the attention it should; by careful study much better results, at no great increase of costs, are possible and these improved results are of real interest to the buyers of the products. The book contains a wealth of practical information which should help the manufacturing industries considerably; it is well presented, well arranged, the subject matter clearly set out and very adequately illustrated. The book opens with a very helpful glossary of terms applied to metal polishing and then continues with a brief history of the subject, which is most interesting. From this point the "meat" of the book commences with a chapter containing a very complete outline of the theory of polished surfaces including the assessment of degree of polish; this is followed by chapters on the procedure for polishing metals and non-metals together with the technique of polishing; the reference to non-metals is very brief, of little value and bears little relation to the subject matter of the book. Other chapters are devoted to polishing compositions, mops, bobs and brushes used for polishing and on barrel-, automatic- and electro-polishing methods. Two further chapters deal with handling of metal removed during polishing and with dust extraction; the latter has some very good points, about ducting design which have wider application than to polishing shops. The final chapters refer to problems in polishing shops, including risks to operators and to costing.

TRADE EXHIBITIONS

As an introduction to our preview of the B.I.F. at Castle Bromwich, the following comments are topical: they are extracts from a recent address given to the Royal South Wales Institute of Engineers by Mr. Robert Nott, Secretary of the Building Centre, London, W.1.

One of the remarkable features of the post-war period has been the increase in the size and number of trade exhibitions, and in the attendances at these exhibitions. The first signs of this were that at the first post-war B.I.F. in 1947, there were 15,000 overseas buyers, against about 5,000 in the pre-war years, and also that one-and-a-half million people queued for hours to see "Britain Can Make It" although nothing was for sale.

As far as the trade exhibitions are concerned, I think the increase is due to a number of factors. Basically the cause is the complete change which has taken place in industry since 1939. Many firms have had to manufacture for export for the first time. This has led them to learn new techniques, both of manufacture and of selling. This is reflected in such new exhibitions as the Packaging Exhibition and the Mechanical Handling Exhibition. Many new technical developments were made during the war years, which are only now being applied to civilian production, and which can be demonstrated most effectively at trade exhibitions. Perhaps the most important cause of interest in trade exhibitions is the fact that it has been a seller's market since the war, and buyers faced with shortages of traditional materials have been incessantly in search of new sources of supply of substitute products, and of new techniques to handle those substitutes.

The causes can be enlarged upon and there are others, but it is remarkable that this increase has taken place in the face of enormously increased costs. This wave of interest is world wide and looks like going on indefinitely. It is noteworthy that the large banks now have stands, which are virtually branch offices. The nationalized industries, gas, electricity, coal, and the railways, all exhibit in the big trade shows, as do various Ministries.

Industrialists may ask what are the advantages to be gained from exhibiting, and what points should be considered in making a decision. First of all, let me say categorically that it is unlikely that you will receive enough direct orders at your stand to pay for it. In fact, many capital goods cannot be sold in that way, and therefore all that you can get from your stand are enquiries.

There are, however, certain advantages which are special to exhibitions. They are specially suitable for showing goods which rely on performance and which can really only be sold by demonstration and by close inspection by the buyer. Many, if not most, of these are products which the buyer must visit the works to see, which takes time. Exhibitions are specially suitable for selling products which require technical explanation and for selling consumer goods in a shop-window setting. Again the atmosphere of an exhibition is congenial. There are also certain other advantages. Some firms encourage their works staff to visit their stand. It gives the Works Foreman a tremendous kick to see the sales staff putting over the products he has made. At an exhibition you can test public reaction to a new product, or to a new idea, before it really reaches the production line. If, of course, you can really produce a new and revolutionary product, then the crowd will flock to your stand. That has happened several times since the war.

Every exhibition must have a theme, and perhaps the best theme of all is the appeal to a particular trade or profession as customers. Buyers will not come unless they are satisfied that there will be enough stands of interest to them to make it worth a visit. You may have a stand which will be the talk of the town when the exhibition is over, but your public will not know about it unless they have first been persuaded that the exhibition is worth visiting.

If your stand is well-designed you are much more likely to see it illustrated in the trade papers which cover the particular exhibition, and thus to get the considerable incidental publicity which that brings.

Finally, it should be remembered that exhibitions are always "news." A great deal of space in trade and national press is given to the reporting of exhibitions, and to the description of individual stands.

THE BRITISH INDUSTRIES FAIR - CASTLE BROMWICH BIRMINGHAM

APRIL 30 TO MAY 11.

PREVIEW OF BUILDING PRODUCTS

The B.I.F.—annual focus for overseas buyers of British goods and plant for engineering, civil engineering and building—is now so vast that even with the aid of the comprehensive catalogue and the division of the Fair into sections, the visitor with limited time to spare may miss important developments.

From advance information received, there appears to be a good selection of new products. Many of these will be featured in future issues of A. & B. N.

Commerce marketing-specialists of America's Economic Co-operation Administration will again man stands at Castle Bromwich to assist exhibitors seeking entry to the American field. Under the heading "the Way to the U.S.A. Market," the booths will explain the routine recommended by American experts to manufacturers in Britain who are anxious to penetrate the States.

So far as building products are concerned, the exhibits are distributed over the various sections.

This preview, pinpoints some of those stands which show building products—as distinct from heavy engineering products at one end of the scale and small hardware at the other. The fair is divided as usual into five sections as follows: A—Hardware, B—Building and Heating, C—Electrical, D—Engineering and Outdoor-Plant, etc. Exhibits referred to in this article are listed in numerical stand order under the respective sections.

THE main entrance from Castle Bromwich station to the Fair Building leads directly into:

SECTION "A" HARDWARE

(*Stand numbers are given in brackets*)

Facing down the hall from the entrance low numbered stands start in the right-hand or south avenue and work upwards to the left or north avenues.

Gas and oil appliances and domestic hardware are being shown by **John Harper Ltd.** (A336) and in avenue 400 an interesting exhibit is a newly produced germicide sprayer with automatic action. The sprayer is designed for fitting to lavatory-doors, but has other uses—notably as insecticide sprayer for tropical and home use. The makers are **Talfacto Ltd.** (A401). Fixed central vacuum cleaning systems are a speciality of **The British Vacuum Cleaning Company Ltd.** (A520).

The great majority of building exhibits, excluding plant are to be found in:

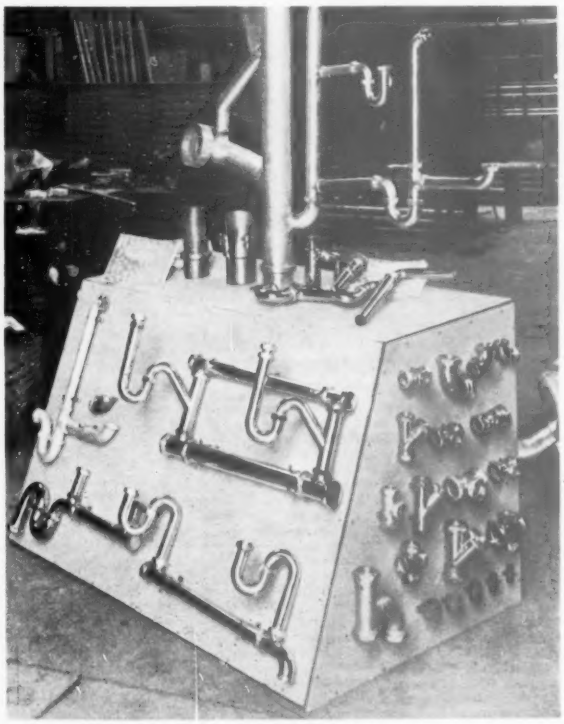
SECTION "B" BUILDING AND HEATING

Robert Taylor & Co. Ltd. (B200) have a new solid fuel reflector open fire/boiler combination and here in avenue 200, **The Forson Design & Engineering Co. Ltd.** (B201) are showing a well designed door check and closer of which there are several models. **Econa Modern Products Ltd.** (B208 and 309) will show a large variety of traps, preformed waste ranges, soil waste and vent stacks in copper tube. Of interest is the firm's insulating nipple for joining dissimilar metals without their coming into electrical contact with each other. The trap designed for the Canadian market (illustrated in the A. & B.N. of April 20) will also be shown with samples of traps designed for South America. One section of **Imperial Chemical Industries** (Metals Division) exhibit is also on this stand (208 and 309). **"Twisteel" Reinforcement Ltd.**—same stand (B208-309)—are showing their steel fabric reinforcement and high tensile bars. The firm prepares designs for all types of reinforcement including barrel vault roofing at home and overseas.

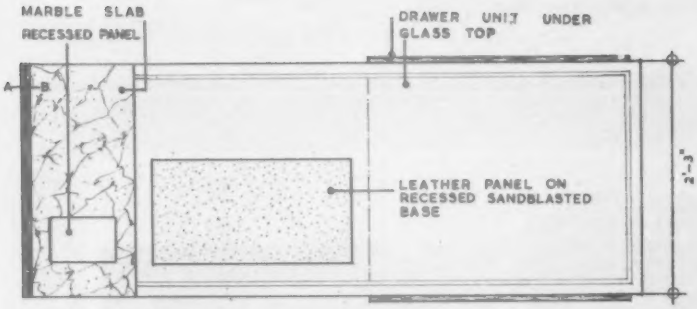
A covered type of shelving which has the dust excluding value of cupboard storage, without the inconvenience of doors, should prove to be worth investigation. The makers are **Waddells (Stratford Steel Equipment) Ltd.** (B210). In the same avenue **C.S.A. Industries** (B212-313) are showing fitted kitchen equipment. Stainless steel sinks for domestic and bar installation may be seen on the stand of **W. & G. Sissons Ltd.** (B220).

Metal shortages, notably zinc for galvanizing, may draw added attention to other methods of rust proofing. One such process is that devised by **Jenolite Ltd.** (B221). Among their latest products is an aluminium degreaser. A new product is an aluminium etchant for ornamental treatment.

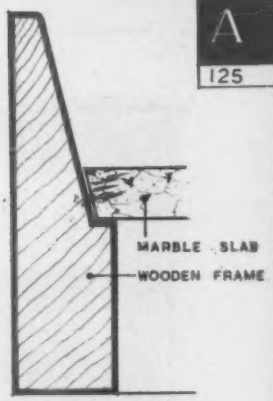
In avenue 300 **The Bolton Gate Company Ltd.** (B302) show thirteen different types of shutters, gates and sliding doors for both hand and electrical operation. The firm have developed a new operating gear for garage doors.



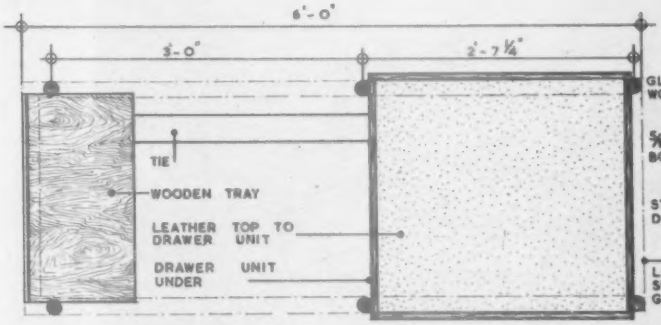
Some of the Econa Modern Products exhibits of planned plumbing in copper.



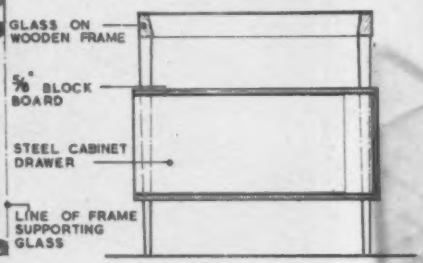
PLAN ABOVE GLASS



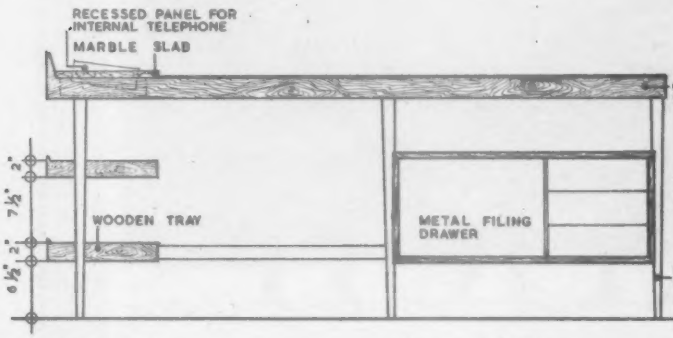
½ FS SECTION A-B



PLAN BELOW GLASS

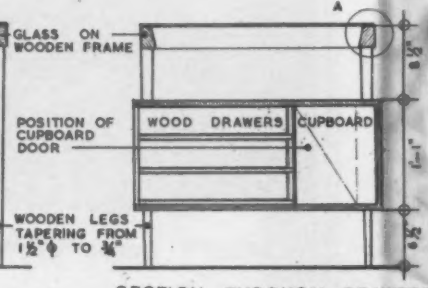


SECTION THROUGH STEEL DRAWER

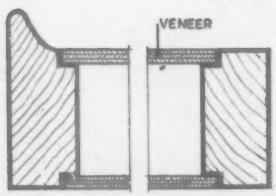


ELEVATION

SCALE • ¾" TO 1 FT.



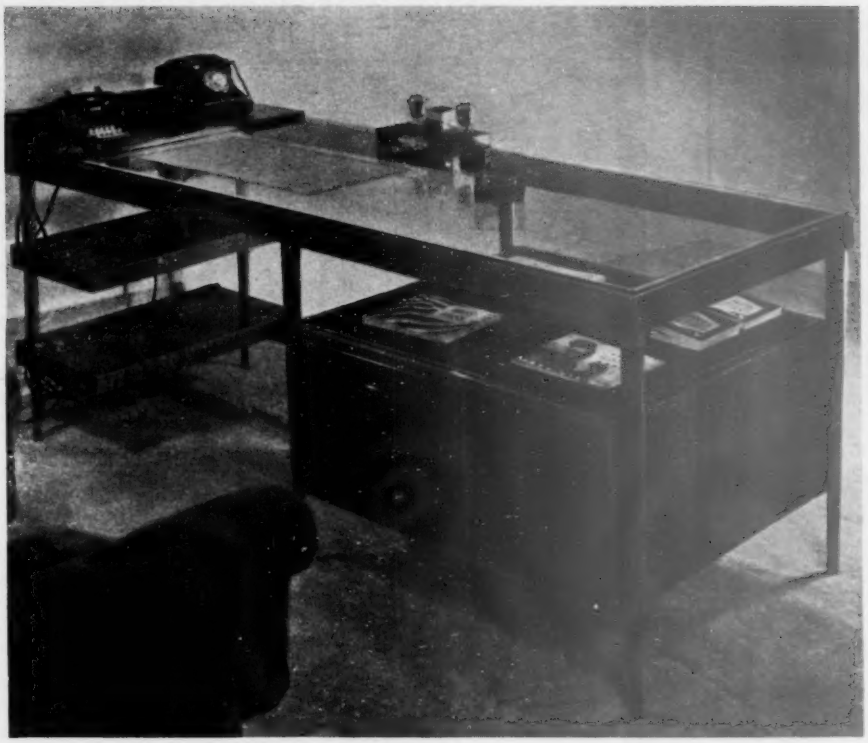
SECTION THROUGH DRAWERS & CUPBOARD



½ F.S. THROUGH TRAY

½ F.S. SECTION OF TIE

½ F.S. DETAIL A



MANAGER'S DESK, SOUTH AFRICAN TOURIST BUREAU, LONDON

ARCHITECTS: JAMES CUBITT & PARTNERS

Structural laminated plastics for walls, partitions, doors, floors, etc., are shown by **Holoplast Ltd.** (B315). Panels are available in standard brown and coloured finishes. Corrugated sheets are also made by the firm. On the next stand **Jenson & Nicholson** (B316) show a variety of paints and enamels. Industrial finishes are a feature.

Improved designs of builders' plant are shown by **Acrow Ltd.** (B318).

Henry Hope & Sons (B320-415) have not reported any new developments, but will be showing a range of metal windows, shutters, patent glazing, etc.

A new medical cabinet with sterilizer and a recently marketed automatic dishwasher by **W. H. Paul Ltd.** (B324) are well designed products.

Evered & Company Ltd. (B327) are showing plastics, builders' hardware and other building products. A second stand is (B309 and 208).

G. A. Harvey Ltd. (B329), amongst other exhibits, show new designs of perforated sheet metal, much of which has been used at the South Bank Site of the Festival of Britain as balcony fronts, etc.

Over to avenue 400 where **J. H. Sankey** (B405) are showing their recently marketed power saw and a wide range of builders' materials and where **I.C.I.** (Metals Division) have another stand (B409 and 308) containing examples of copper and aluminium and their alloys in sheet, strip and other forms. Despite metal shortages **Peglers Ltd.** (B421) announce that they will show almost their complete range of plumbers' and engineers' brass foundry.

The Ruberoid Company Ltd. (B423) whose stand was designed by Eric Brown, L.R.I.B.A. and Peter Chamberlin, A.R.I.B.A., are showing full-size models of their products which have been extensively specified for the Festival of Britain.

Many of the stands front on two avenues. Thus **Radiation Ltd.** (B400 and 501) are the first stand in avenue 500. This is the solid fuels division of the company where grates and whole-house warming units, stoves and combination grates of the latest design can be seen.

Taylor Rustless Fittings Ltd. (B504) are exhibiting five classes of stainless steel products including sinks, door furniture and shop fittings. One exhibit is a sink made specially for the North American market. **W. H. Colt Ventilation Ltd.** share a stand (B506) with the other part of the same company which specializes in cement, plasterwork and patent sheet lathing.

Fire resisting Gypsum plaster and quick-setting Gypsum plasters are shown—to demonstrate that speed and quality in plastering can go hand in hand—by **The British Plaster Board Limited** (B511).

Fredk. Braby & Co. Ltd. (B517)—who are responsible for the louvre cladding panels on the Skylon at the Festival of Britain South Bank site—are showing examples of plate and sheet metal work. There is a special display of perforated metals and other metal goods including aluminium furniture.

The United Steel Companies (B519) show stainless steels in sheet, strip wire and bar form for industrial, domestic and decorative purposes. **W. C. Youngman Limited** (B520) have an interesting range of bathroom fittings, well designed, and made with secret fixings.

Easiclene Porcelain-Enamel Ltd. (B524) are also exhibitors at the Toronto World Fair. Their stainless sinks, designed specially for the North American market have special tap hole centres and 3½ in. wastes. Their standard products for the home market will be shown at the B.I.F.

The stand of **Cellon Ltd.** (B527) is always easy on the eye, decorated to show the fine colour range, texture and quality of the firm's paints.

And so—unless you have taken the wrong turning—to avenue 600.

Rainsford & Lynes Ltd. (B604) are showing their new self-blowing gas torch for use on towns' mains supply. And—(B606)—**Aqualux Ltd.** have a range of water treatment equipment—softeners, chlorinators, filters, valves, etc. **Kwikform Ltd.** (B613) will have on their stand an entirely new range of adjustable props and shores as well as unit frame scaffolding and steel formwork for straight and curved concrete work.

While on the subject of concrete, the exhibitors on the next stand (B614) are **Sealocrete Products Ltd.**, makers of concrete hardeners, waterproofers, dust-proofers and oilproofers. This firm is showing a liquid stone compound and a liquid stain for the first time at the B.I.F. These products are for decorating cement, concrete rough cast and asbestos. The firm also makes coloured cork flooring compound for light duty floors.

Hills (West Bromwich) Ltd. (B615 and 512) are showing—amongst other metal structural units—their permanent pre-fabricated steel framed school construction. **Lewis Berger (Gt. Britain) Ltd.** (B621 and 518) are showing a new range of finishes for machinery, metal furniture, plant, etc. The name of the finish is "Polykem."

Lightweight flat roofing and decking systems, sums up in a few words the varied exhibits shown by **D. Anderson & Son Ltd.** (B625).

If the reader started at the *left* of the entrance he will not have read as far as this, but this will be where he came in—avenue 700—suitably close to the refreshment and lunch rooms.

E. Hill Adlam & Co. Ltd. (B708) exhibit sliding door gear for every door that slides.

Building Plant Hire (on site) Ltd. (B712) demonstrate a system of hollow wall concrete construction which has created considerable interest during past months as a means of erecting houses with unskilled labour.

F. H. Bourner & Co. (Engineers) Ltd. (B714) are exhibiting and demonstrating their "Supatap"—on which the washer can be changed without cutting off the supply. The latest model with plastic finger grips will be shown.

SECTION "C" ELECTRICAL

There are a number of new or recent developments in this section. In avenue 200 **Langley (London) Ltd.** (C226) are showing essential insulating materials. In avenue 300 batteries for emergency lighting systems are to be found on the stand of **Chloride Batteries Ltd.** (C301)—the **Cable Makers Association** and **Henleys Telegraph Works** are both on stands (C312–413) the latter firm are showing wiring systems and electrical distribution equipment.

Thorn Electrical Industries Limited (C314) have, in the past few months produced a number of new developments in fluorescent lighting fittings of good design.

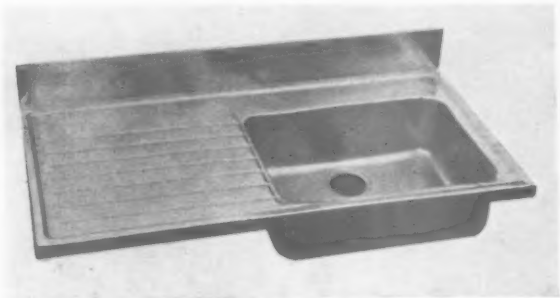
E. K. Cole Limited (C403) are showing a range of Thermovent electric space heating appliances, covering domestic, industrial and marine requirements. In one of the heaters shown, a safety device automatically switches off the supply should the heater be inadvertently knocked over or the heat outlet obstructed.

Thermotubes on show include a new range of Industrial Waterproof units in single, double and triple banks.

Bakelite Ltd. (C404) announce that a number of new materials have been produced since last year's fair. These include a new Bakelite cement for the low temperature production of high grade plywood. Warerite Ltd. have produced several new patterns for their decorative laminated plastics.

Two new and important buildings—the House of Commons and the Royal Festival Hall—are both fitted with controlled clock systems by **Gent & Co.** (C407). A practical demonstration of the firm's system will be provided by some 100 dials installed in various parts of the Castle Bromwich buildings. The dials, keeping accurate time regardless of power cuts, are controlled by a master clock on the stand.

The British Electrical Development Association (C408 and 509) has an enquiry bureau for all electrical matters and demonstrations of the most recent applications of electricity will be given. Switchgear, electric motors, industrial heaters and heating equipment will be featured by **The British Thomson-Houston Co. Ltd.** (C410–511) against a background of



A new sink by Taylor Rustless Fittings Ltd., designed with wide waste outlet to suit North American requirements.

A new rocker switch by New Day Electrical Accessories. *(See page 500.)*

heavy electrical plant. A new line of industrial electric motors is being introduced at this year's exhibition.

Many new types of porous ceramic for filtration, aeration and electrolytic processes can be seen on the stand of **Doulton & Co. Ltd.** (C411) who are also exhibiting an improved heat-resisting stoneware material.

New and of interest to architects and contractors are exhibits by **New Day Electrical Accessories Ltd.** (C416) the whole of whose range of electrical plugs, switches, sockets, etc. are designed to meet the latest specifications. The two newcomers to the range are a tumbler switch and a fireside triple outlet socket. The switch has been designed to conform with B.S.1299 for post-war housing needs.

Falk Stadelmann & Co. Ltd. (C419) show fluorescent and tungsten light fittings, heating appliances, switchgear and cables.

The General Electric Company's stand (C503 and 402) with its numerous and varied interests is always worth a visit. The Festival of Britain has resulted in the company producing new designs of floodlight—including a submersible model—to mention only one small aspect of G.E.C. activities. The B.I.F. display includes turbo alternators, switchgear and an information centre on things electrical.

"What's cooking"? seems a good advertisement (*quoted from the catalogue*) for the three cookers on view at the stand (C505) of **Gillott Electro Steam Cookers Ltd.** This firm is showing a new autosafe kettle element and a small range of immersion heaters as well as their cookers. The latter are well designed units. Originally they were equipped with limited domestic hot water supply but this now gives place to additional oven capacity.

Berrys Electric Ltd. (C507 and 406) have three new models of electric fire. New designs have been added to their range of lighting fittings and there is a unit for automatically heating sufficient water during off peak hours to last through the day—useful in load shedding periods.

British Insulated Callenders Cables Ltd. will be found on two stands (C513 and C413 and 312)—a stand to be visited by the industrial architect and the electrical engineer.

The trend to greater mechanization in building will probably lead visitors to the stand of **Wolf Electric Tools Ltd.** (C603). The complete range will be shown including two machines new to the B.I.F.; these are the 10 in. portable electric saw and the new hammer kits.

The Nelson stud welder—already described and illustrated in these columns is a device which simplifies the fixing of roofing and walling sheets of all kinds, speeds the work of securing metal to metal for such things as balustrades, pipe hangers etc., and by automatic weld timing ensures a satisfactory job. This will be one of many items on the **Crompton Parkinson Ltd.** stand (C609). Fluorescent tubes in newly designed fittings and fans are other exhibits.

Down the same avenue is **The English Electric Company Ltd.** (C613 and 512). Here are refrigerators, switchgear, water heaters, generating equipment, cookers and fires, etc. Further down (C615 and 514) **Ferranti Ltd.** have produced a new safety fire which cuts off if tipped. The elements are guarded and the whole is a clean bit of designing. Units of their usual range will be shown.

There are many stands in avenue 700 but once again you are near the refreshment rooms. Before you go, **Rawlplug Ltd.** (C707) will probably keep you interested Amongst numerous fixing devices and tools the Durium drill and rawlnuts—for those who do not already know about them are worth seeing. The former is a rapid masonry borer; the latter (recently produced) a strong fixing medium for use in thin and hollow materials.

SECTION "D" ENGINEERING

B.B. Chemical Co. Ltd. (D108) have produced two new companion products for their range of Bostik compounds. The first is a permanently plastic composition—in four colours: red, blue, cream and black—in a continuous strip and known as Prestik. This waterproofing sealing strip softens under heat but will not melt at 300 deg. F. The second new exhibit is a liquid rubber cement resistant to oil and petrol when dry.

Compressor equipment—portable and stationery will be found at (D242) **Air Pumps Ltd.** together with a display of **Armstrong Whitworth** pneumatic tools.

The insulation of domestic equipment is the main feature on the stand of **Fibreglass Ltd.** (D312).

Stelcon (Industrial Floors) Limited (D326) are showing as an integral part of the stand their industrial steel floor plates and storage walls—the latter for forming bunkers of all sorts.

Stewarts and Lloyds (D408 and 511) exhibit steel tubes for all purposes—steam, gas, water, etc., and for fittings, joints and fabricated tubular work. The firm also have an outdoor stand.

The plastics division of **Imperial Chemical Industries** (D412) includes in its exhibit various forms of perspex, Polythene tubing for water service lines will doubtless again attract attention.

Castings—notably for manhole covers—are the business of **Hale & Hale (Tipton) Ltd.** (D508 and 609). Further down the same avenues—500 or 600 whichever you please are **Dunlop Ltd.** (D520) and 621). On these stands are: the aviation division: the general rubber goods division and special products. Rubber flooring is one of the exhibits of building interest.

The British Aluminium Company Ltd. (D605) lay special emphasis on recent developments in the applications of aluminium—sheet and corrugated.

Lightweight house construction is one feature of **Metal Sections Ltd.** (D617–619) stand. In avenue 700 in this section are **Ioco Ltd.** (D701) showing laminated plastic products, electrical insulating materials and rubber flooring. **Thomas Ward Ltd.** (D719) also have an outdoor stand. Their products may be described as covering the industry—general, mechanical and electrical. **Hall Harding Ltd.** (D749 and 648) show a variety of drawing office equipment.

Last but not least—so far as this preview goes **Thomas De La Rue & Co. Ltd.** are showing (D757 and 656)—in the Potterton Gas Division—panels, boilers, cookers and water heaters.

OUTDOOR

Advance information on the outdoor exhibits of plant etc., indicate so much new development that we are going to see for ourselves and report on this section separately.

Two of the outdoor exhibits. Top, the Neal "type R" crane and below, Aveling Barfords new grader.

CONTRACT • NEWS •

Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked ✱ are given in the advertisement section.

OPEN

BUILDING

BEBINGTON B.C. (a) 26 houses and 30 lock-up garages with tarmacadam paving. (b) Borough Engineer, Brackenwood, Higher Bebington. (c) 2 Gns. and 1 Gn. (e) May 14.

* * *

BILLERICAY U.C. (a) Block of 4 garages at Billericay, block of 6 garages at Pitsea, block of 6 garages at Wickford, and block of 8 garages at Laindon. (b) Council's Surveyor, Council Offices, High Street. (c) 2 Gns. (e) May 11.

* * *

BRIGHTON B.C. (a) 9 terraced houses. (b) Borough Engineer, 26-30 King's Road. (c) 2 Gns. (e) May 15.

* * *

BURTON-UPON-TRENT B.C. (a) Block of 12 shops and 6 dwellings and 2 blocks of 12 single persons' flats, and block of 8 shops and 4 dwellings. (b) Borough Surveyor, Town Hall. (c) 2 Gns. (d) Apr. 30. (e) June 1.

* * *

CHAILEY R.C. (a) Pair of houses. (b) Council's Architect, Council Offices, Lewes House, High Street, Lewes. (c) 5 Gns. with quantities or 2 Gns. without quantities. (e) May 5.

* * *

CHERTSEY U.C. (a) Prefabricated concrete branch library. (b) Engineer and Surveyor, Council Offices. (c) 1 Gn. (e) May 4.

* * *

CHESTER C.C. (a) Infants' school, Blacon. (b) City Engineer, Town Hall. (d) May 5.

* * *

CLITHEROE B.C. (a) 2 pairs of 3-bedroom houses, block of 7 bungalows, and 3 blocks of 6 dwellings. (b) Borough Surveyor. (c) 2 Gns. (e) May 12.

* * *

DERBY B.C. (a) 12 houses. (b) Borough Architect, The Council House, Corporation Street. (c) 2 Gns. (e) May 9.

* * *

DEVON C.C. (a) Farmhouse at Lower Cumery Farm, Bigbury. (b) County Land Agent, Bradninch Hall, Castle Street, Exeter. (c) 2 Gns. (d) Apr. 28.

* * *

DEVON C.C. (a) Farm Buildings, water supply, repairs and alterations at Lower Cumery Farm. (b) County Land Agent, Bradninch Hall, Castle Street, Exeter. (c) 2 Gns. (d) Apr. 28.

* * *

DROXFORD R.C. (a) 10 houses and works. (b) Clerk to the Council, Northbrook House, Bishop's Waltham, Southampton. (c) 2 Gns. (d) Apr. 28.

* * *

DURHAM C.C. (a) Pair of police houses. (b) County Architect, Court Lane. (e) May 4.

* * *

ESHER U.C. (a) 22 dwellings, Weston Green Estate. (b) Engineer and Surveyor, Council Offices. (c) 1 Gn. (e) May 11.

* * *

ESHER U.C. (a) Erection of (1) 20 houses, (2) 12 flats, (3) 12 houses, (4) 38 houses, (5) 6 old people's bungalows, (6) 6 houses, and (7) 22 houses on Slough Farm Estate, Claygate. (b) Engineer and Surveyor, Council Offices. (c) 1 Gn. each contract. (d) May 9.

HALSTEAD U.C. (a) 5 pairs of houses, Park Fields Estate, and 16 flats in 2 blocks and a terrace of 4 houses, Parsonage Street. (b) A. E. Wiseman, 10 Duke Street, Chelmsford. (c) 3 Gns. (e) May 16.

* * *

HAMBLEDON R.C. (a) 4 houses and 12 flats on Downhurst Estate, Ewhurst, with a parking bay and access path, and 4 houses and 8 flats, with site works, at Cherry Tree Road, Milford. (b) Engineer and Surveyor, Council Offices, Bury Fields, Guildford. (c) 5 Gns. (e) May 16.

* * *

IPSWICH B.C. (a) (Contract No. 1) 20 houses, (Contract No. 2) 26 houses, (No. 3) 40 houses, (No. 4) 20 houses, and (No. 5) 18 houses, on Chantry Estate. (b) Borough Engineer, 19 Tower Street. (c) 3 Gns. (d) May 2. (e) June 7.

* * *

ISLE OF ELY C.C. (a) Pair of police houses. (b) County Architect, County Hall, March. (c) 2 Gns. (d) May 1. (e) May 28.

* * *

LONDON—FRIERN BARNET. (a) 36 flats in 3 three-storey blocks, with an estate laundry. (b) B. R. Ostler, Town Hall, N.11. (c) 2 Gns. (d) May 7. (e) June 18.

* * *

LONDON—WEST HAM B.C. (a) 9 shops with maisonettes at Fife Road. 14 houses at Pacific Road. (b) Borough Architect, 70 West Ham Lane, E.15. (c) 2 Gns. each contract. (d) May 5.

* * *

LONDON—WIMBLEDON B.C. (a) 3 three-storey blocks of 18 flats and 12 houses. (b) Borough Engineer, Town Hall, S.W.19. (c) 5 Gns. (d) May 15.

* * *

LONGBENTON U.C. (a) 3 public conveniences with pedestrian shelters at Dudley, Burradon and West Allotment. (b) Engineer and Surveyor, Council Offices, Forest Hall, Newcastle-on-Tyne. (c) 2 Gns. (e) May 12.

* * *

LONGRIDGE U.C. (a) 24 houses. (b) Council's Clerk, Council Offices. (c) 2 Gns.

* * *

MANSFIELD WOODHOUSE U.C. (a) 4 shops and flats at Cox's Lane Estate. (b) W. Richardson White, 33 Albert Street, Mansfield. (c) 2 Gns. (e) May 7.

* * *

N. IRELAND—GOVERNMENT OF NORTHERN IRELAND. (a) Reconstruction of forester's house at Altnaheglish Forestry Centre. (b) Ministry of Finance (Room 103), Law Courts Building, May Street, Belfast. (e) May 7.

* * *

N. IRELAND—TYRONE COUNTY HEALTH COMMITTEE. (a) Erection and completion of a maternity and child welfare clinic, Clogher. (b) Messrs. M'Carthy & Lilburn, Scottish Provident Buildings, Belfast. (c) 5 Gns. (e) May 21.

* * *

NORTH RIDING E.C (a) Primary School, Eastfield. (b) Messrs. S. W. Milburn & Partners, 9 Esplanade, Sunderland. (e) May 18.

* * *

OLDHAM B.C. (a) Public conveniences, Grains Bar. (b) Borough Engineer, Municipal Buildings, 75 Union Street. (c) 2 Gns (e) May 7.

READING B.C. (a) Construction of approx. 1,000 sq. yds. in situ concrete paving, inspection pits, brickwork, etc., for garage at Transport Depot, Mill Lane. (b) Borough Surveyor, Town Hall. (c) 2 Gns. (e) May 15.

* * *

SAFFRON WALDEN B.C. (a) 6 pairs of houses, Brooke Avenue. (b) Borough Engineer, Municipal Offices. (c) 2 Gns. (e) May 21.

* * *

SAWBRIDGEWORTH U.C. (a) 6 pairs of houses, and construction of 670 ft. of roadway. (b) Council's Clerk, Council Offices. (c 2 Gns. for houses. (e) May 19.

* * *

SOUTH SHIELDS B.C. (a) 98 dwellings. (b) Borough Engineer, Town Hall. (c) 2 Gns. (e) May 7.

* * *

STROOD R.C. (a) 4 pairs of aged persons' bungalows. (b) Engineer and Surveyor, Council Offices, Frindsbury Hill. (c) 5 Gns. (e) May 4.

* * *

TIPTON B.C. (a) Block of 4 shops with flats above. (b) Housing Architect, Municipal Buildings. (c) 3 Gns. (e) June 4.

* * *

TRURO R.C. (a) 6 houses at Portscatho, 6 at Probus and 6 at Veryan. (b) J. H. Snellgrove, 26 Coinagehall Street, Helston. (c) 2 Gns. (e) May 8.

* * *

WEST RIDING C.C. (a) Additional sanitary accommodation at Adwick-le-Street, Woodlands Schools. (b) Divisional Architect, Balne Lane, Wakefield. (e) May 14.

* * *

WEST SUSSEX C.C. (a) 3 additional classrooms, etc., at Kingsham Primary School, Chichester. (b) County Architect, County Hall, Chichester. (d) May 15.

PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

BUILDING

BELFAST CORPORATION. (1) 88 flats. (2) Skegoneill Avenue Estate. (3) H. & J. Martin, Ormean Road, Belfast. (4) £127,989. (1) 32 houses. (2) Donegall Park Avenue Estate. (3) W. Spence & Co., Lislea Drive, Belfast. (4) £45,630.

* * *

BOOTLE B.C. (1) 110 houses and flats. (2) Netherton. (3) Lloyd & Cross Ltd., Argyle Street, Birkenhead. (4) £146,013.

* * *

CONSETT. (1) Site preparation work for proposed 100,000 sq. ft. factory. (2) Greencroft trading estate (for Ransome & Marles Ltd., Newark). (3) Turriff Construction Co. Ltd., Leamington Spa. No tenders have yet been invited for the factory construction.

* * *

DURHAM C.C. (1) Provision of school clinic. (2) Houghton-le-Spring. (3) R. Matthews & Co., Villiers Street, Sunderland. (4) £5,326.

DURHAM C.C. (1) New county school. (2) West View, Hartlepool. (3) William Pearson & Son, Stranton, West Hartlepool. (4) £37,850.

* * *

DURHAM R.D.C. (1) 123 houses. (2) Bowburn. (3) Direct Labour. Surveyor: K. G. Miller.

* * *

ENFIELD. (1) 74 houses. (2) Bullsmoor Lane Estate. (3) Townsend & Collins Ltd., Brick Lane, Enfield Highway. (4) £99,128. (1) 12 flats. (2) 718 Hertford Road. (3) Hubert C. Leach Ltd., 261 High Street, Waltham Cross. (4) £15,336.

* * *

FINCHLEY B.C. (1) 124 flats. (2) Arden Estate. (3) Humphreys Ltd., Knightsbridge, S.W.7. (4) £176,589.

* * *

GLASGOW CORPORATION. (1) 352 and 32 houses. (2) Barmulloch. (3) A. A. Stuart & Sons (Glasgow) Ltd. (4) £500,956 and £54,246. (1) 360 houses. (3) J. Train & Co. Ltd., Glasgow. (4) £512,341 and £61,027. (1) 80 houses. (3) Melville, Dundas & Whitson Ltd., Glasgow. (4) £113,854. (1) 212 houses. (2) Milton. (3) Mactaggart & Mickel Ltd., Glasgow. (4) £319,562.

* * *

LIVERPOOL CORPORATION. (1) 96 flats, 10 houses. (2) Speke Hall Estate and Hunts Cross. (3) Unit Construction Co. Ltd., Bentham Drive, Liverpool. (4) £173,976 and £16,200.

* * *

LONDON, W.C. (1) Students' Union building. (2) Malet Street, Bloomsbury. (3) Higgs & Hill Ltd., Crown Works, South Lambeth Road, S.W.8.

* * *

LUTON CORPORATION. (1) 256 Trusteel houses. (2) Leagrave No. 2. site. (3) Winton Hayes Ltd., Drove Road, Biggleswade, Beds. (4) £355,377.

* * *

MANCHESTER CORPORATION. (1) 80 houses, 30 flats. (2) Newall Green. (3) Direct Labour. (1) 45 houses. (2) Various sites. (3) Direct Labour.

* * *

MIDDLESBROUGH. (1) Cubicling of the Erismus block. (2) West Lane Infectious Diseases Hospital. (3) Hudson Bros., Fidler Street, Middlesbrough.

* * *

NEATH CORPORATION. (1) 50 houses. (2) Cimla No. 2 site. (3) Direct Labour Department. (4) £75,321.

* * *

NEWTON AYCLIFFE D.C. (1) 180 houses and 18 garages, and 11 shops, 11 flats, public convenience and lock-up garages. (3) Direct Labour.

* * *

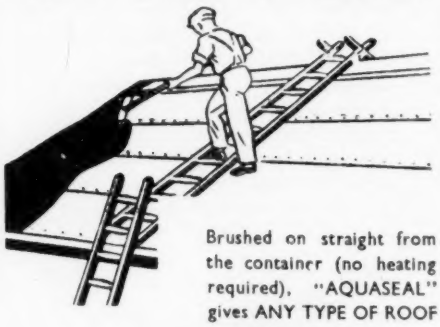
NORTHALLERTON U.D.C. (1) 70 houses. (2) Valley Road Estate. (3) Moody Bros., East Road, Northallerton. (4) £96,789.

* * *

READING CORPORATION. (1) 60 flats. (2) Caversham. (3) Boyd & Murley Ltd., London Street, Reading. (4) £104,524.

* * *

SOUTH SHIELDS. (1) 124 houses. (2) Simonside. (3) L. W. Evans Ltd., 18 Norfolk Street, Sunderland.



OFFICIAL ANNOUNCEMENTS

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APPOINTMENTS

LONDON COUNTY COUNCIL.

APPLICATIONS are invited for positions of ARCHITECTURAL ASSISTANT (salaries up to £580 a year) in the Housing and Valuation Department. Commencing salaries will be determined according to qualifications and experience. Engagement will be subject to the Local Government Superannuation Acts, and successful candidates will be eligible for consideration for appointment to the permanent staff on the occurrence of vacancies.

Successful candidates will be required to assist in the design, layout and preparation of working drawings for housing schemes (cottages and multi-storey flats) and will be employed in the Housing Architect's Division.

Forms of application may be obtained from the Director of Housing, The County Hall, Westminster Bridge, S.E.1 (stamped addressed envelope required and quote reference A.A.1). Canvassing disqualifies. (816). [0101

BOROUGH OF WALTHAMSTOW COMMITTEE FOR EDUCATION.

APPLICATIONS are invited for the following permanent appointment in the office of the Architect to the Committee, Mr. Frank H. Heaven, A.R.I.B.A., A.R.I.C.S.

CHIEF ASSISTANT ARCHITECT at a salary of £685, rising by increments of £25 to £760 per annum, plus £30 London Weighting (Grade A.P.T. VIII of National Scales).

Applicants must have had considerable experience in an Architect's office in connection with the design, construction and maintenance of educational or similar buildings, and some administrative experience.

Forms of application may be obtained from and should be returned to the undersigned within three weeks of the appearance of this notice.

E. T. POTTER, Borough Education Officer.
Education Offices,
Town Hall, Forest Road, Walthamstow, E.17. [5353

CITY OF PETERBOROUGH.

APPOINTMENT OF ASSISTANT QUANTITY SURVEYOR.

APPLICATIONS are invited for the above appointment in the City Engineer's Department at a salary in accordance with A.P.T. Grade IV, commencing at £480 per annum; subject to the National Conditions of Service and to one month's notice on either side.

Applicants should have good experience in the measurement of works on site, preparation of interim certificates and final accounts, preparation of bills of quantities under both the Standard Method of Measurement of Building Works and the Code of Practice for the Measurement of Small Dwellings.

Housing accommodation is not immediately available, but the Council will, if necessary, assist so far as they are able the successful applicant to obtain accommodation, but it must be distinctly understood that the Council do not guarantee to find either a house or living accommodation.

Applications, stating age, details of qualifications and experience, together with copies of three recent testimonials, should be delivered to the undersigned in a sealed envelope, and endorsed "Assistant Quantity Surveyor," not later than 5th May, 1951.

Canvassing, directly or indirectly, will be a disqualification, and candidates must disclose whether they are related to any member or senior officer of the Council.

C. PETER CLARKE, Town Clerk.
Town Hall, Peterborough.
April, 1951. [5368

COUNTY BOROUGH OF SOUTHEND-ON-SEA.

EDUCATION COMMITTEE.

MUNICIPAL COLLEGE.

Principal: R. W. Wilson, B.Sc.(Eng.), A.C.G.I., Whit.Sch., D.I.C., A.M.I.E.E.

FULL-TIME ASSISTANT IN THE SCHOOL OF ARCHITECTURE.

APPLICATIONS are invited for the appointment of an ASSISTANT (Grade B) to undertake studio instruction and lecturing in the School of Architecture.

Applicants should be Associates of the R.I.B.A. and must be keenly interested in progressive architectural education. Previous teaching experience is not essential.

Salary: Burnham Technical Report, 1951.

Further particulars and forms of application may be obtained from the undersigned (s.a.e. foolscap).

Completed forms should be returned to the Principal, Municipal College, Victoria Circus, Southend-on-Sea, within 14 days of the appearance of this advertisement.

D. B. BARTLETT, B.A., M.A.Ed.,
Acting Chief Education Officer.
Education Office,
Warrior Square, Southend-on-Sea. [5360

THE UNIVERSITY OF SHEFFIELD.

APPLICATIONS are invited for the post of LECTURER or ASSISTANT LECTURER in Architecture, to begin duties as early as possible.

Salary scales: Lecturer, £550-£1,100. Assistant Lecturer, £450-£500, with Superannuation provision under the Federated Superannuation Scheme for Universities, and a family allowance. The commencing salary on either scale will depend upon the qualifications and experience of the successful candidate.

Further particulars may be obtained from the undersigned with whom applications (three copies) including the names and addresses of two referees, should be lodged by 12th May, 1951.

A. W. CHAPMAN, Registrar. [5364

MINISTRY OF WORKS.

THERE are vacancies in the Chief Architect's Division for ARCHITECTURAL ASSISTANTS and LEADING ARCHITECTURAL ASSISTANTS with recognised training and fair experience. Successful candidates will be employed in London and elsewhere on a wide variety of Public Buildings, including Atomic Energy and other Research Establishments, Telephone Exchanges and Housing.

Salary: Architectural Assistants £300-£525 per annum; Leading Architectural Assistants £500-£625 per annum. Starting pay will be assessed according to age, qualifications and experience. These rates are for London; a small deduction is made in the Provinces.

Although these are not established posts, some of them have long term possibilities and competitions are held periodically to fill established vacancies.

Apply in writing, stating age, nationality, full details of experience, and locality preferred, to Chief Architect, Ministry of Works, Abell House, John Islip Street, London, S.W.1, quoting reference WG10/BC. [5326

THE IMPERIAL WAR GRAVES COMMISSION invite applications from suitably qualified candidates for two posts of SENIOR SUPERINTENDENT OF WORKS in their India, Pakistan and South East Asia District. Iniual postings would be to Kohima in Assam and to Rangoon in Burma. All candidates should be under 50 years of age, have had experience in carrying out constructional work abroad and have some knowledge of the country concerned. Membership of the Royal Institution of Civil Engineers or Royal Institute of British Architects or Royal Institution of Chartered Surveyors and Military Works Service experience would be advantages. Single men or married men prepared to leave their families in this country only will be considered. Candidates must be prepared to live on sites. Salary scale £675/25/825 per annum plus foreign service allowance at present at the rate of £105 per annum for single men or £305 per annum for a married man unaccompanied by his wife, in India, and £585 per annum for a single man or £785 per annum for a married man unaccompanied by his wife, in Burma, plus free accommodation in each case. Initial contract three years.

Applications should reach the Appointments Officer, Imperial War Graves Commission, Woodburn House, Woodburn Green, High Wycombe, Bucks, within two weeks of the appearance of this notice. [5390

MIDLOTHIAN COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for the following vacancies on the Architectural Staff of the County Architect's Department:—

1. Vacancy—Salary A.P.T. VIII—£685-760.

Candidates must be Associates of the R.I.B.A. and possess a sound and wide knowledge of Housing and School Building.

2. Vacancy—Salary A.P.T. IV—£480-525.

Candidates must possess a sound knowledge of modern building construction and be accustomed to the preparation of working drawings and details.

3. Vacancy—Salary A.P.T. I—£390-435.

Candidates must be familiar with modern building construction with particular emphasis on Housing.

Applications, together with copies of two recent testimonials, are to be lodged with the Subscriber not later than 14 days from the date of insertion of this advertisement, and it should be stated for which vacancy the application is submitted.

JAMES McBOYLE, County Clerk.
County Buildings, Edinburgh, 1.
April, 1951. [5392

CORK CORPORATION.

APPOINTMENT OF TEMPORARY PLANNING ASSISTANT.

APPLICATIONS are invited from duly qualified Architects or Engineers who hold a recognised qualification in Town Planning for above position.

The appointment will be for a period of not less than twelve months. Remuneration will be from £10 to £13 13s. 0d. per week; successful candidate may enter scale at a point above the minimum according to qualifications and experience.

Applications, giving age, particulars of education, professional qualifications and experience, should be addressed to the undersigned to reach him not later than 15th May, 1951.

PHILIP MONAHAN,
City Manager and Town Clerk.
City Hall, Cork, Eire.
14th April, 1951. [5379

LONDON COUNTY COUNCIL.

ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for positions of ARCHITECT, Grade III (£550-£700) and TECHNICAL ASSISTANT (up to £580) for work on new housing schools and other public buildings. The positions are superannuable. Candidates for Grade III positions should possess professional qualifications.—Application forms from the Architect (AR/P/S), The County Hall, Westminster Bridge, S.E.1, enclosing stamped addressed foolscap envelope. Canvassing disqualifies. (384). [0097

LANCASHIRE COUNTY COUNCIL.

APPLICATIONS are invited for the following appointments in the County Planning Department:—

1. SECTIONAL PLANNING OFFICER, A.P.T. VII (£635-£710). Divisional Planning Office, Blackpool, to be responsible for directing the work of technical staff; considerable experience in Development Plan preparation essential. Possession of one of the following qualifications is essential:—A.M.T.P.I., A.M.I.C.E., A.R.I.C.S., A.M.I.Mun.E., A.R.I.B.A.

2. SENIOR PLANNING ASSISTANTS (Architectural), A.P.T. VI (£595-£660), required at Preston (Headquarters), and the Accrington and Manchester Divisional Offices. Duties include design and preparation of detailed layouts for housing schemes, village extensions and central area improvements. Candidates must be qualified architects.

3. SENIOR PLANNING ASSISTANTS (Engineering and Surveying), A.P.T. VI (£595-£660) at the Accrington and Wigan Divisional Offices. Duties include preparation of Town Maps, as required by the 1947 Act, and dealing with problems requiring civil engineering or surveying experience. Candidates should possess a recognised professional engineering or surveying qualification.

4. PLANNING ASSISTANTS (Architectural), A.P.T. I-V (£390-£570) at Preston (Headquarters), and Ulverston Divisional Planning Office. Duties mainly as 2 above. Candidates for Grades I-IV should possess University Degree in Architecture or the Intermediate R.I.B.A. Certificate, and for Grade V be qualified architects. Salary commensurate with qualifications and experience.

Applications, stating clearly appointment applied for, together with the names, addresses and qualifications of two referees (preferably one should be present employer), should reach the County Planning Officer, County Offices, Preston, by 7th May, 1951. [5394

CITY OF BIRMINGHAM ESTATES DEPARTMENT.

APPOINTMENT OF REPAIRS MANAGER.

APPLICATIONS are invited for the post of REPAIRS MANAGER at a salary in accordance with Grade A.P.T. VIII (£685-£760 per annum) of the National Scales of Salaries. Applicants should hold one or more of the following qualifications:—

Royal Institution of Chartered Surveyors (Quantities or Building Surveyors' Sub-Division);
Institute of Municipal and County Engineers;
Institute of Civil Engineers;
Royal Institute of British Architects.

The appointment will be subject to the Local Government Superannuation Act, 1937, and will be permanent after the satisfactory completion of six months' probationary service and the passing of a medical examination.

Details of the duties and forms of application may be obtained from the undersigned, to be returned not later than the 9th May, 1951.

R. F. H. ROSS, City Estates Officer.
141a Great Charles Street, Birmingham, 3. [5386

EAST MIDLANDS GAS BOARD.

NOTTS AND DERBY DIVISION.

ARCHITECTURAL ASSISTANT.

A VACANCY exists for an ARCHITECTURAL ASSISTANT in the Divisional Drawing Office, Derby.

Applicants should be neat draughtsmen and have office experience in the preparation of working drawings, specifications, and quantities for industrial and commercial buildings.

The commencing salary will be according to experience and ability and within the range of £450-£530 per annum, Grade A.P.T. VII of the National Salary Scales for the Gas Industry. The successful candidate will be required to pass a medical examination and to subscribe to such superannuation scheme as the Board may adopt in the future.

Applications, stating age, qualifications, training and experience, together with the names of two referees, should be submitted to the undersigned not later than fourteen days from the publication of this advertisement.

K. L. PEARCE, Divisional General Manager, Notts and Derby Division.
5 Friar Gate, Derby.
9th April, 1951. [5381

UNIVERSITY COLLEGE OF NORTH WALES, BANGOR.

BUILDINGS MAINTENANCE OFFICER.

APPLICATIONS are invited for the post of BUILDINGS MAINTENANCE OFFICER. The person appointed will work under the direction of the Clerk of Works of the College and must be experienced in general building work.

The initial salary will be between £440 and £500 p.a., according to qualifications and experience, and in addition a free house will be provided. The post also carries with it membership of a Staff Pension Scheme.

Before submitting a formal application, all candidates must write to the undersigned and obtain further particulars concerning the post.

KENNETH LAWRENCE,
Secretary and Registrar. [5387

BOROUGH OF GILLINGHAM.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPOINTMENT OF SENIOR ASSISTANT ARCHITECT.

APPLICATIONS are invited for the above-mentioned appointment at a salary in accordance with Grade VI (Consolidated £595 to £660 per annum) of the A.P. and T. Division of the National Scale of Salaries. Applicants should be suitably qualified, and have practical experience covering architectural design of a general character including housing and schools.

A house will be made available on rent to the successful applicant.

Forms of application and further particulars may be obtained from the Borough Engineer and Surveyor, Municipal Buildings, Gillingham, Kent.

Applications, appropriately endorsed, must be received by the undersigned, accompanied by copies of not more than three recent testimonials, not later than first post on Thursday, 10th May, 1951.

Canvassing, directly or indirectly, will disqualify.

J. C. NELSON, Town Clerk.
Municipal Buildings, Gillingham, Kent.
21st April, 1951. [5393

SERVICES OFFERED

THATCHING and Reedlaying Contracts undertaken by Experts.—J. G. Cowell, Soham, Ely, Cambs. [5120

MODELS. Architectural and Industrial.—Inquire first of British Industrial Model Services Ltd., Regent Chambers, Westover Road, Bournemouth. [5305

QUALIFIED Architect requires part-time work of contemporary nature, London area. — Box 1170, The Architect and Building News. [5388

ARCHITECTURAL APPOINTMENTS VACANT

ARCHITECTURAL Assistant required immediately. Must have up-to-date experience of the design of large industrial buildings and office blocks and be fully conversant with local authorities' requirements and by-laws. Knowledge of steel and concrete framed structures essential. Also ability to prepare specifications ready for quantity surveyor and tender. Salary £525 p.a.—Apply in writing, stating age, experience, etc., marking envelopes "Architect," to: Personnel Manager, Metropolitan-Vickers Electrical Co. Ltd., Trafford Park, Manchester, 17. [5384

J. DOUGLASS Mathews & Partners, Chartered Architects, 3 Ebury Street, S.W.1, require qualified male Assistant with some experience. Salary according to qualifications and experience. [5361

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INSURANCE

ARCHITECTS' Indemnity Insurance effected. — Please write for Proposal Form to E. J. SAXBY, Incorporated Insurance Broker, 37a Carfax, Horsham, Sussex Tel. 990. [5233

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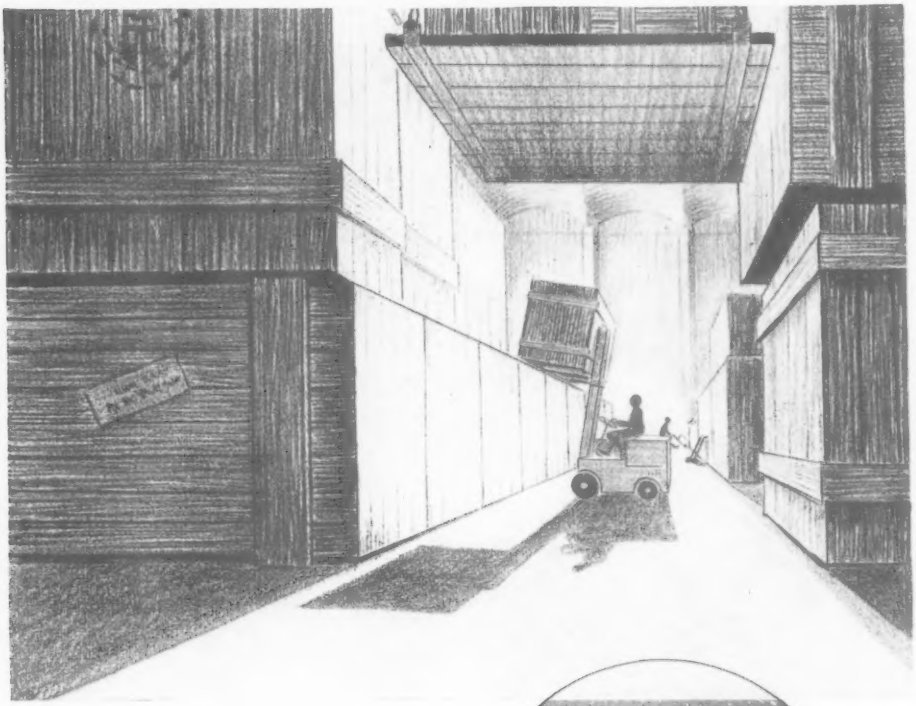

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